# Faculty of Health Sciences

# **DEAN'S REPORT**

The Faculty of Health Sciences has a strong reputation for research excellence and our research continued to progress robustly in 2011. On the cusp of our centenary year, the faculty aims to build on its proud history of medical achievement and cutting-edge research, while

remaining aware of the need to respond to South Africa's and Africa's problems in the context of global health challenges.

To improve the health and well-being of our population, there is growing emphasis in the faculty that the research we are involved in should include a translational component: scientific discoveries must be translated into practical applications and then be implemented in an innovative and cost-effective manner.

According to international faculty rankings in the *QS* World University Rankings 2011, ours is the only faculty from an African university to be in the top 200 positions in the field of Life Sciences and Medicine. This hard-earned reputation of the faculty has allowed it to aspire to being in the top 50 positions by 2020 and to win admirable levels of support from international donors. This is an important consideration, given that the vast majority of the faculty's research funding comes from foreign sources (in particular, foreign governmental and non-profit organisations). In 2011, the faculty was awarded R409 million in research contracts, which represents close to 57 percent of the university's total research revenue (compared to 46 percent in 2010).

A further R29 million was awarded to support postgraduate students during 2011. A total of 1 470 students registered for postgraduate studies in the faculty in 2011, when 135 postgraduate diplomas and 69 honours, 144 master's and 52 doctoral degrees were awarded. The national aspiration to dramatically increase the number of postgraduate students trained each year requires universities to not only simply increase funding for student bursaries, but also to support the postdoctoral and mid-career fellows who play a crucial role in supporting and supervising postgraduate students. Another part of our efforts to grow the next generation of health researchers, with special



attention to those from designated groups, was our very strong representation in UCT's Emerging Researcher Programme, in which 121 of our staff participated. This capacity-building initiative provides research development grants, workshops, and other mentoring activities to our young researchers and academics, and plays a significant part in not only strengthening their research profiles, but also preparing them for future leadership in research.

By revitalising its training of clinical scholars, the faculty is responding actively to the serious dearth of appropriately

trained clinician scientists in our country, as highlighted in a recent report by the Academy of Science of South Africa. The new Clinical Scholars Programme, which provides training for research degrees in addition to the professional training programmes offered, admitted its first scholars in 2011. The programme will not only draw students from UCT, but also from other African institutions with which we have established links.

From January 2011, all clinicians in South Africa who are in training as medical specialists are required by the Health Professions Council of South Africa to register for MMed/MPhil degrees, for which a research dissertation must be completed. While this creates a real opportunity for growing clinical scholars, it also highlights the substantial constraints to be overcome in securing sufficient time for research by trainee specialists and their supervisors, and procuring adequate funds and infrastructure for such research. This has necessitated urgent fund raising for this purpose, with a focus on finding support for our faculty-wide Centres for Clinical Research, Innovation and Translation.

Undergraduate research continues to grow in the Faculty of Health Sciences, with a record number of 53 abstracts submitted by our students for the third annual Undergraduate Research Day in 2011. The enthusiasm of the students and the quality of the research presented remains impressive, with a number of these undergraduate research projects being presented at conferences or as publications in peer-reviewed journals.

Our established researchers continued to perform at a very high level. There are 86 NRF-rated researchers in the faculty: nine with an A-rating, 23 with a B-rating and 38 C-rated. Encouragingly, 16 young researchers secured a Y-rating. One of the two new A-ratings at UCT was awarded to Professor Heather Zar of the Department of Paediatrics and Child Health, only the third woman at UCT to be so rated by the NRF.



journals by our faculty, from 846 publications (348.89 units) in 2008 and 931 publications (370.94 units) in 2009, to 1 077 publications (378.07 units) – or 36 percent of UCT's total) – being published in 2010. This is approximately 70 percent more than the number of publications, as measured by units, achieved five years ago. Publication counts for 2011 are pending but are expected to have increased further.

To continue this impressive trajectory, during 2011 the Faculty Research Committee was engaged in developing its strategic plan for research for the period 2012 to 2020, on the basis of widespread consultation and participation from staff across the faculty, following the report from the international experts who conducted an external review of the faculty's research enterprise in 2010. Some of the external review recommendations have already been implemented, including the strengthening of research governance, increased support for MMed research projects, a 33 percent increase in publication subsidy allocated to departments, and increased investment in the faculty's core facilities and services. The faculty's new research strategy for 2012 to 2020, and more importantly, clear plans of action, will be launched in its centenary year.

Moving forward, the faculty retains its accountability to the community we serve and continues to apply its research to addressing the burden of disease in our province, country and continent. To meet growing healthcare demands and continue our crucial role in advancing better health for all, the faculty must expand its core function of undergraduate education, postgraduate training, and, importantly, research. We will continue to support the longterm sustainability of existing research units, while working to address priorities identified during the external review: enabling research by further strengthening core facilities and core support services, and encouraging increased research productivity through innovative funding strategies for both established and emerging research groups. To this end, an active search for increasing internal and external funding will be a priority.

Looking back on a productive year for the faculty, I extend appreciation to our funders, donors, partners and collaborators who have worked with us during 2011, and who continue to share in the success of our achievements. I also express my sincere gratitude to the staff and students for their dedication to advancing and deepening our research goals and achievements. As we enter our 100th year, we look forward to translating our successes into significant impacts on the health of the public – locally, nationally and across our continent.

PROFESSOR MARIAN JACOBS

Dean of the Faculty of Health Sciences

# **DOCTORAL GRADUATIONS**

#### N. ALLIE (CLINICAL LABORATORY SCIENCES)

The role of cell specific tumour necrosis factor in the host's immune response against mycobacterium tuberculosis infection.

Supervised by Associate Professor M. Jacobs

#### C. ANTHONY (CLINICAL LABORATORY SCIENCES)

The importance of n-linked glycosylation on the n-domain of angiotensin-i converting enzyme. **Supervised by** Professor E.D. Sturrock and Dr S.L. Schwager

#### R.D. BALLIM (HUMAN BIOLOGY)

The regulation of TBX3 by TBX2 and by the retinoic acid signaling pathway.

Supervised by Dr S. Prince

#### J. BLANCKENBERG (MEDICINE)

Molecular genetics of arrhythmogenic right ventricular cardiomyopathy in South Africa.

Supervised by Professor B. Mayosi

#### Z. BRUWER (CLINICAL LABORATORY SCIENCES)

An investigation into factors which have an impact on access to and utilisation of the genetic and endoscopic surveillance clinic offered to high-risk members of known Lynch families.

Supervised by Professor R. Ramesar and Dr M. Futter

# H. BUCHANAN (HEALTH AND REHABILITATION SCIENCES)

Evidence-based practice in the occupational therapy profession in South Africa and the Western Cape.

Supervised by Professor J. Jelsma

Supervised by Froressor 0. defisition

# D. CROMBIE (HUMAN BIOLOGY)

The role of emotional intelligence in sports performance.

**Supervised by** Professor T. Noakes

# S. DOBNER (SURGERY)

Investigations into the stability of growth factor – induced vasculature and the effects of synthetic biomaterials on heart remodelling after myocardial infarction.

Supervised by Dr N. Davies

# R. DOMINGO (CLINICAL LABORATORY SCIENCES)

Characterisation of the angiotensin-converting enzyme sheddase and synthesis of peptidomimetic inhibitors.

Supervised by Professor E.D. Sturrock

# R.G. DOUGLAS (CLINICAL LABORATORY SCIENCES)

The significance of active site residues in n-domain selectivity of angiotensin-converting enzyme.

Supervised by Professor E.D. Sturrock

#### J.P. EVANS (HUMAN BIOLOGY)

The impact of obesity and inflammation on metabolic risk factors for cardiovascular disease and type two diabetes in black and white South African women.

Supervised by Dr J. Goedecke

# B.N. GARSHONG (PUBLIC HEALTH AND FAMILY MEDICINE)

Benefit incidence of health services in Ghana and access factors influencing benefit distribution.

Supervised by Professor D. McIntyre

## K. GORDON (CLINICAL LABORATORY SCIENCES)

Protein-protein interactions of human somatic angiotensin-converting enzyme.

**Supervised by** Professor E.D. Sturrock and Dr S.L. Schwager

#### L. GRAHAM (CLINICAL LABORATORY SCIENCES)

The functional characterisation of the C-type lectin: Clecsf8. **Supervised by** Professor G. Brown

# J. HARRIES (PUBLIC HEALTH AND FAMILY MEDICINE)

Abortion services in South Africa: Challenges and barriers to safe abortion care: Health care providers' perspectives.

**Supervised by** Dr C. Colvin and Associate Professor D. Cooper

# A.T. HESS (HUMAN BIOLOGY)

Real-time motion and main magnetic field correction in MR spectroscopy using an EPI volumetric navigator.

**Supervised by** Associate Professor E. Meintjes and Dr A.J. van der Kouwe

# J. IPSER (PSYCHIATRY AND MENTAL HEALTH)

The relationship between impulsivity, affect and a history of psychological adversity: A cognitive-affective neuroscience approach.

Supervised by Professor D. Stein

# J. JOSKA (PSYCHIATRY AND MENTAL HEALTH)

Neurocognitive disorders in young adults commencing highly active antiretroviral treatment in the Western Cape.

Supervised by Professor D. Stein

# K. KADNER (SURGERY)

Investigation of synthetic hydrogels as therapy for myocardial infarction.

Supervised by Dr N. Davies

# B. KAGINA (CLINICAL LABORATORY SCIENCES)

Association between BCG-induced immunity and risk of TB disease.

**Supervised by** Associate Professor W. Hanekom and Dr B. Abel

#### N. KAIRINOS (SURGERY)

The biomechanics of negative-pressure wound therapy.

Supervised by Professor D.A. Hudson

# M. KAMUPIRA (PUBLIC HEALTH AND FAMILY MEDICINE)

Dyad-related factors in HIV prevention.

**Supervised by** Associate Professor L. Myer

# J. KARPELOWSKY (CHILD AND ADOLESCENT HEALTH)

The effects of Human Immunodeficiency Virus on outcomes in children undergoing surgery.

Supervised by Professor H.J. Zar

# U. KYRIACOS (HEALTH AND REHABILITATION SCIENCES)

The development, validation and testing of a vital signs monitoring tool for early identification of deterioration in adult surgical patients.

**Supervised by** Professor J. Jelsma and Professor M.F.M. James

#### N. LEON (PUBLIC HEALTH AND FAMILY MEDICINE)

An evaluation of a provider-initiated HIV testing and counselling (PITC) intervention for patients with sexually transmitted infections (STI) in Cape Town, South Africa.

Supervised by Dr C. Mathews and Dr S. Lewin

# L.J. LIEBENBERG (CLINICAL LABORATORY SCIENCES)

Inflammation and T-cell activation at the female genital tract: the impact on HIV disease progression, risk of transmission, and susceptibility to HIV infection.

**Supervised by** Dr J. Passmore and Associate Professor F. Little

# M.J. LOMBARD (HUMAN BIOLOGY)

Development and validation of a dietary assessment tool to determine dietary intake of people living in oesophageal cancer risk areas in the rural Eastern Cape of South Africa.

**Supervised by** Professor N. Steyn and Professor M. Senekal

## K. MATTHEWS (MEDICINE)

Immunological analysis of pericardial tuberculosis. **Supervised by** Dr K.A. Wilkinson, Professor B. Mayosi and Associate Professor R. Wilkinson

#### P. MBELE (CLINICAL LABORATORY SCIENCES)

Evaluation of a reverse tetracycline inducible system in recombinant BCG to improve stability and immunogenicity.

**Supervised by** Dr R. Chapman and Professor A-L. Williamson

#### Z. MBULAWA (CLINICAL LABORATORY SCIENCES)

A study of genital human papillomavirus (HPV) infection and antibody response in heterosexually active South African couples.

**Supervised by** Professor A-L. Williamson and Professor L. Bekker

#### G.A. MEINTJES (MEDICINE)

Diagnosis, treatment and immunopathogenesis of the HIV-associated tuberculosis immune reconstitution inflammatory syndrome.

Supervised by Professor R. Wilkinson

# K. MIDDELKOOP (MEDICINE)

The effect of HIV and an antiretroviral treatment programme on tuberculosis transmission, incidence and prevalence in a South African township.

Supervised by Professor R. Wood

#### N. MKHIZE (CLINICAL LABORATORY SCIENCES)

Highly active antiretroviral therapy (HAART) in the control of genital tract HIV shedding and reconstitution of immune responses in HIV-infected women.

Supervised by Dr J. Passmore

# J. MOODLEY (PUBLIC HEALTH AND FAMILY MEDICINE)

Prevention of cervical cancer in South Africa: opportunities and challenges.

**Supervised by** Professor J. Myers and Professor M. Hoffman

# K. MURPHY (PUBLIC HEALTH AND FAMILY MEDICINE)

The development and evaluation of a smoking cessation programme for disadvantaged pregnant women in South Africa

Supervised by Dr C. Mathews and Dr K. Steyn

#### M. NTSEKHE (MEDICINE)

Studies of effusive constructive pericarditis.

Supervised by Professor B. Mayosi

# A.J. OLIVIER (CLINICAL LABORATORY SCIENCES)

Studies on immunity in the male genital tract.

Supervised by Dr W. Burgers and Dr J. Passmore

# K. PLATTNER (HUMAN BIOLOGY)

The association between exercise-induced muscle damage and cortical activity in the alpha and beta frequency range.

Supervised by Professor M.I. Lambert

# A. PLUDDEMANN (PSYCHIATRY AND MENTAL HEALTH)

Methamphetamine (tik) use, sexual risk, aggression and mental health among schoolgoing adolescents in Cape Town.

**Supervised by** Associate Professor C. Lund and Professor C. Parry

#### B. ROSE (CLINICAL LABORATORY SCIENCES)

The regulation of type I collagen gene expression in stromal fibroblast by breast tumour cells.

Supervised by Professor I. Parker

#### I.L. ROSS (MEDICINE)

The aetiopathogenesis, cardiovascular and metabolic complications, and pharmacogenomics of Addison's disease in South Africa.

**Supervised by** Professor N.S. Levitt, Professor A.D. Marais and Professor T.S. Pillay

#### A. SABAN (PSYCHIATRY AND MENTAL HEALTH)

The association between psychopathology and substance use in young people.

**Supervised by** Professor L. London and Dr N. Moroiele

#### M. SETSHEDI (MEDICINE)

Impairments in signaling cascades mediating the progression of liver disease from chronic hepatitis to hepatocellular carcinoma in animal and human models.

**Supervised by** Dr S. de la Monte, Professor M. Kew and Professor J. Wands

#### A. SOARES (CHILD AND ADOLESCENT HEALTH)

Changes in the BCG-induced T cell response over the first year of life.

**Supervised by** Associate Professor W. Hanekom and Dr T. Scriba

#### S. SOMERS (MEDICINE)

The role of signal transducer and activator of transcription – 3 (STAT-3) in ischaemic and pharmacological postconditioning.

**Supervised by** Associate Professor S. Lecour and Professor L.H. Opie

# J.R. SUTHERLAND (CLINICAL LABORATORY SCIENCES)

The role of seminal plasma in cervical carcinoma. **Supervised by** Associate Professor A. Katz

#### R. TADOKERA (CLINICAL LABORATORY SCIENCES)

Immunological characterisation of the HIV-Tuberculosis associated immune reconstitution inflammatory syndrome.

**Supervised by** Professor R. Wilkinson, Dr K. Wilkinson and Dr G. Meintjes

# N.G. TENA-COKI (CLINICAL LABORATORY SCIENCES)

Investigations of mycobacteria-specific memory/ effector T cell responses in HIV-infected children receiving antiretroviral therapy.

**Supervised by** Dr B. Kampmann, Professor W. Hanekom and Dr T. Scriba

# M. TWOMEY (PUBLIC HEALTH AND FAMILY MEDICINE)

Performance characteristics of the South African triage scale (adult version).

**Supervised by** Professor J. Myers and Associate Professor L. Wallis

# M. UNGER (HEALTH AND REHABILITATION SCIENCES)

The role of the abdominal muscles in pelvic positioning and lower limb function in children with spastic type cerebral palsy.

Supervised by Professor J. Jelsma

# E. VAN WIJK (HEALTH AND REHABILITATION SCIENCES)

The lived experience of male intimate partners of female rape victims in Cape Town, South Africa.

Supervised by Associate Professor S. Duma

#### R.N. VAN ZYL-SMIT (MEDICINE)

Cigarette smoke and human pulmonary immune responses to mycobacteria.

**Supervised by** Professor K. Dheda and Professor F.D. Bateman

# **PATENTS**

#### FILED APPLICATIONS

# BACON, T. AND MCNAUGHT, A.M.

Prosthesis with underactuated prosthetic fingers.
Provisional Patent Application South Africa 2011/08606.

#### BARNARD, S. A

*Thoracoscope.* National Phase Patent Application South Africa 2011/02875.

# BEETON-KEMPEN, N., BLACKBURN, J.M. AND COULSON, L.B.

*Cytochrome P450 bioassay.* National Phase Patent Application South Africa ZAx2010/08127.

# BEETON-KEMPEN, N., BLACKBURN, J.M. AND COULSON, L.B.

*Cytochrome P450 bioassay.* National Phase Patent Application Britain 1119474.3.

# BERGMAN, N.J. AND MORGAN, B.E.

*Neonatal brain well-being monitor.* National Phase Patent Application South Africa ZAxPCTIB09/054316.

#### BURGER, I.H.

A method for compensating for respiratory motion in magnetic resonance imaging. PCT Patent Application PCT PCT/IB2011/000345.

#### BURGER, I.H.

A method for compensating for respiratory motion in magnetic resonance imaging. National Phase Patent Application Britain 1103067.3.

# COLLINS, M., RALEIGH, S.M., RIBBANS, W.J., SCHWELLNUS, M.P. AND SMITH, R.K.W.

Oligonucleotides and methods for determining susceptibility to soft tissue injuries. National Phase Patent Application Australia 2009312451.

# COLLINS, M., RALEIGH, S.M., RIBBANS, W.J., SCHWELLNUS, M.P. AND SMITH, R.K.W.

Oligonucleotides and methods for determining susceptibility to soft tissue injuries. National Phase Patent Application Europe 09824482.5.

# COLLINS, M., RALEIGH, S.M., RIBBANS, W.J., SCHWELLNUS, M.P. AND SMITH, R.K.W.

Oligonucleotides and methods for determining susceptibility to soft tissue injuries. National Phase Patent Application South Africa ZAxPCTIB09/054892.

# COLLINS, M., RALEIGH, S.M., RIBBANS, W.J., SCHWELLNUS, M.P. AND SMITH, R.K.W.

Oligonucleotides and methods for determining susceptibility to soft tissue injuries. National Phase Patent Application United States 13/127,668.

#### DHEDA, K.U.J.

*Method and device for diagnosing tuberculosis.* National Phase Patent Application ARIPO AP/P/2011/05772.

#### DHEDA, K.U.J.

*Method and device for diagnosing tuberculosis.* National Phase Patent Application Brazil Pl0922798–9.

#### DHEDA, K.U.J.

Method and device for diagnosing tuberculosis. National Phase Patent Application China 200980150396.5.

#### DHEDA, K.U.J.

Method and device for diagnosing tuberculosis. National Phase Patent Application India 4222/DELNP/2011.

#### DHEDA, K.U.J.

Method and device for diagnosing tuberculosis. National Phase Patent Application Indonesia W00201102560.

#### DHEDA, K.U.J.

Method and device for diagnosing tuberculosis. National Phase Patent Application Nigeria NG/C/2011/150.

#### DHEDA, K.U.J.

*Method and device for diagnosing tuberculosis.* National Phase Patent Application South Africa 2011/04416.

# HITZEROTH, I.I., MACLEAN, J.M., RYBICKI, E.P. AND WILLIAMSON, A-L.

Expression of proteins in plants. Divisional Patent Application Europe 11162685.9.

# ILLING, N., STEIN, D.J. AND VAN HEERDEN, J.H.

A method of diagnosing a mental state. National Phase Patent Application South Africa ZAxPCT/IB10/050768.

# ILLING, N., STEIN, D.J. AND VAN HEERDEN, J.H.

A method of diagnosing a mental state. National Phase Patent Application United States USxPCT/IB10/050768.

#### JOHN, L.R.

Non-invasive deep muscle electromyography. National Phase Patent Application India 2823/MUMNP/2011.

#### JOHN, L.R.

Non-invasive deep muscle electromyography. National Phase Patent Application South Africa 2011/09253.

#### KAIRINOS, N.

*Breast implant insertion accessory.* Provisional Patent Application South Africa 2011/09254.

#### LAZARUS, J.M.

*Endoscope or laparoscope.* Provisional Patent Application South Africa 2011/05975.

#### LAZARUS, J.M. AND WILLIAMS, J.

Manually operable positioning device with locking facility. Provisional Patent Application South Africa 2011/08604.

#### MFOLOZI, S

Apparatus for estimating post-mortem interval of a corpse. PCT Patent Application PCT PCT/IB2011/001810.

#### ODEEN, C.F.A. AND SPOTTISWOODE, B.S.

*Fluid flow assessment.* National Phase Patent Application Europe 09817343.8.

# ODEEN, C.F.A. AND SPOTTISWOODE, B.S.

Fluid flow assessment. National Phase Patent Application South Africa 2011/02707.

#### ODEEN, C.F.A. AND SPOTTISWOODE, B.S.

Fluid flow assessment. National Phase Patent Application United States 13/121,811.

#### OPIE, L.H.

Compositions and methods for treating heart failure. National Phase Patent Application South Africa 2011/01773.

# VAN DER MERWE, W.M., VAUGHAN, C.L AND WILSON, D.A.J.

A knee prosthesis. Provisional Patent Application South Africa 2011/05200.

# VAN DER MERWE, W.M. AND WILSON, D.A.J.

A surgical drill aimer. National Phase Patent Application South Africa 2011/02343.

#### VAN DER MERWE, W.M. AND WILSON, D.A.J.

*A surgical drill aimer*. National Phase Patent Application United States 13/063118.

#### **GRANTED**

# ACHARYA, K.R. AND STURROCK, E.D.

Crystal structure of an angiotensin-converting enzyme (ACE) and uses thereof. Divisional Patent United States 7,901,507.

#### CHIBALE, K., NCHINDA, A.T. AND STURROCK, E.D.

Angiotensin I-converting enzyme (ACE) inhibitors. National Phase Patent Australia 2006250905.

# CHIBALE, K., NCHINDA, A.T. AND STURROCK, E.D.

Angiotensin I-converting enzyme (ACE) inhibitors. National Phase Patent Australia 2006250906.

# CHIBALE, K., NCHINDA, A.T. AND STURROCK, E.D.

Angiotensin I-converting enzyme (ACE) inhibitors. National Phase Patent United States 7.981.922.

#### DOUGLASS, N., SHEN, Y.-J. AND WILLIAMSON, A-L.

Recombinant lumpy skin disease virus for preventing AIDS. National Phase Patent South Africa 2010/03806

# VAN DER MERWE, W.M. AND WILSON, D.A.J.

A surgical drill aimer. National Phase Patent South Africa 2011/02343.

RESEARCH CONTRACTS
507

VALUE OF RESEARCH CONTRACTS

R409,42 million

NRF-RATED RESEARCHERS

86

SARCHI RESEARCH CHAIRS

8

ACCREDITED RESEARCH GROUPINGS

21

**DOCTORAL GRADUATIONS** 

**52** 

**ERP PARTICIPANTS** 

121

DHET-ACCREDITED JOURNALS

378.07 units

PEER-REVIEWED PUBLICATIONS

1 240

FILED PATENTS

34

**GRANTED PATENTS** 

6

**POSTGRADUATE STUDENTS** 

1 470

POSTGRADUATE FUNDING

R29,12 million

POSTDOCTORAL RESEARCH FELLOWS

92

POSTDOCTORAL RESEARCH FUNDING

R18,37 million

# DEPARTMENT OF ANAESTHESIA

HEAD OF DEPARTMENT: PROFESSOR MFM JAMES

# DEPARTMENTAL PROFILE

#### Clinical research:

Fluid therapy has continued to be a major area of interest within the Department. The FIRST (Fluids in resuscitation of severe trauma) trial was published in a major journal this year and a number of research projects have resulted from that. In particular, studies on the anion composition of various intravenous fluids have been commenced in collaboration with University College London and this project is now approximately halfway completed. Further intravenous fluid therapy studies have included the development of a semi-automated fluid administration system for patients unable to maintain their own natural fluid balance. This project known as the "Quench" project is being developed jointly between the UCT and University College London Department of anaesthesia and critical care. A major systematic review is being undertaken jointly between Prof James, Prof Mythen (UCL), Prof van der Linden (Belgium) and Dr Richard Weiskopf (UCL) on the role of intravenous hydroxyethyl starch in the perioperative

A second important area of investigation is Obstetric Anaesthesia. New projects were initiated in the study of spinal anaesthesia in preeclamptic parturients. One study will investigate the effects of vasopressor therapy pre-delivery on neonatal acid-base status in patients with a non-reassuring fetal heart trace. A second study will examine three aspects of spinal anaesthesia, namely stroke volume responsiveness prior to spinal anaesthesia, the haemodynamic effects of the vasopressor therapy prior to delivery, and the effects of various methods of administering oxytocin, including the interaction with an alpha-agonist. For this purpose, a non-invasive cardiac output device will be employed, using an algorithm based upon pulse wave form analysis. As part of these investigations, a collaboration was initiated with the Department of Anaesthesia of the University of Washington. This aspect of the study will examine the population characteristics of the adrenaline β2-haplotype in preeclamptic women. At the same time data would be collected on control healthy women. At least three MMed mini-dissertations will arise from this work. One of the investigators represented the Department at the Obstetric Anaesthetists' Association annual 3 day course in London. A further study validating the use of a non-invasive cardiac output device in patients with complicated severe preeclampsia, was accepted by the British Journal of

Anaesthesia. In addition, a prospective audit of epidural analgesia was completed and analysed. The leader of this research group, Professor RA Dyer, has applied for NRF rating on the basis of 22 publications and a PhD in this area during the period of review from 2004-2011.

The refurbishment of the Red Cross Hospital operating theatre complex continued to create an environment conducive to research, and this was evidenced by the publication of several instructive case reports, and an important study of the pharmacokinetics of ketamine in children, following oral administration, in the journal Paediatric Anaesthesia. Several new projects are in preparation, including a pharmacokinetic study of the antimicrobial agent cefazolin during cardiopulmonary bypass. Co-operation in these studies has been obtained from the Department of Pharmacology, including the development of an assay for cefazolin, which should form the basis of several further important clinical trials. Important projects in thromboelastography are ongoing. Valuable guidelines have been published for pain management and sedation in children.

The Department is an active research site for the international, multicentre POISE-2 trial of aspirin and clonidine for perioperative protection of high risk patients against perioperative myocardial events, and has recruited the second highest number of patients in South Africa. The South African principal investigator is Dr B. Biccard, from the Department of Anaesthesia, UKZN. The local site was initially set up by Prof M. James. The lead author is Dr A. Myburgh, with Drs O Porrill and A Emmanuel as co-investigators.

# **Laboratory Research:**

The Department was involved in 3 major areas of research in 2011. Firstly, there are ongoing studies on coagulation, both clinical, which resulted in a paper in Anaesthesia, and an animal study of coagulation in a porcine model of acute liver failure. Cardiac output measurements were also obtained in the latter study. Secondly, transoesophageal echocardiography is being performed in baboons undergoing valve replacement.

#### Collaboration:

Once again, junior consultants and registrars were encouraged to participate in research activities wherever possible, and scientific writing skills were also improved in this way. International collaboration continues, with the University College London Hospitals, Stanford University, the Rikshospitalet, Oslo, the University of Toronto, and the University of Washington.

# RESEARCH FIELDS AND STAFF

## JAMES, MFM.

Ongoing coagulation studies employing thromboel astography; anaesthesia for phaeochromocytoma; blood transfusion and anaesthesia; crystalloid v. colloid in trauma resuscitation; saline v balanced salts in perioperative management.

# DYER RA, REED AR, VAN DYK D, ARCACHE M, EMMANUEL A, SCHULEIN S, VORSTER A,

Okaisabor O, K Timmerman.

Obstetric anaesthesia; cardiac output studies during spinal anaesthesia in patients with preeclampsia; effects of fluid loading, vasopressors and oxytocin; Study on the genetics of preeclampsia; Effects of vasopressors on cord gases; Epidural analgesia audit.

#### MYBURGH A, HEIJKE SAM.

Transoesophageal echocardiography in cardiac anaesthesia.

#### MYBURGH A, EMMANUEL A, JAMES MFM.

POISE-2 trial

#### LLEWELLYN R.

The effect of low molecular weight heparin on the enhancement of coagulation by haemodilution. Drug errors in anaesthesia.

#### LLEWELLYN R, GORDON PC.

Drug errors in anaesthesia.

#### THOMAS J

Management of burns in children; pain management in children; anaesthesia for the separation of conjoined twins. Pharmacokinetics of ketamine in children. Case reports.

#### HODGES O.

Coagulation in patients with paediatric burns.

# **CONTACT DETAILS**

Postal Address:D23 Department of Anaesthesia, New Groote Schuur Hospital, Anzio Road Observatory, 7925, South Africa UCT Telephone: SA (21) 406 6143 GSH Telephone:SA (21) 404 5004 Fax:SA (21) 406 6589

Email:Mike.James@uct.ac.za, Robert.dyer@uct.ac.za

# RESEARCH OUTPUT

# Chapters in books

James, M.F.M. 2011. Pharmacology of intravenous fluids. In A. Maniatis, P. van der Linden and J.-F. Hardy (eds), Alternatives to Blood Transfusion in Transfusion Medicine, pp. 111-118. Second. India: Wiley-Blackwell. ISBN 978-1-4051-6321-7.

James, M.F.M. and Dyer, R.A. 2011. Spinal anesthesia. In R.G. Hahn (ed.), Clinical Fluid Therapy in the Perioperative Setting, pp. 45-50. Cambridge, UK: Cambridge University Press. ISBN 978-1-107-00098-8.

#### **Articles in Peer-reviewed Journals**

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Bosenberg, M. 2011. Anaesthetic gases: environmental impact and alternatives. Southern African Journal of Anesthesia and Analgesia, 17(5): 345-348.

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# DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH

#### HEAD OF DEPARTMENT: PROFESSOR HEATHER ZAR

#### **General Paediatrics**

Emergency Unit Inpatient unit

#### **Subspecialties**

Adolescent Medicine

Allergy

Cardiology

Critical Care

Endocrine

GIT

Haematology/Oncology

Infectious Diseases

Neonatology

Nephrology

Neurodevelopment

Neurology

Pulmonology

Rheumatology

# **Affiliated Disciplines**

Allied Health Sciences

Dietetics

Child & Adolescent Psychiatry

Child Health Unit

Children's Institute

Dermatology

Nuclear Medicine

Paed Anaesthesia

Palliative Care

Paed Pathology

Paed Radiology

Paed Surgery

Poisons Centre

South African Tuberculosis Vaccine Initiative (SATV) I-IIDMM

# **DEPARTMENTAL PROFILE**

Paediatrics and Child Health is one of the largest departments in the Faculty of Health Sciences. It accommodates the field of general paediatrics as well as a full spectrum of paediatric medical subspecialties and affiliated disciplines. The Department provides clinical services at the Red Cross War Memorial Children's Hospital, Groote Schuur Hospital, Somerset Hospital, Mowbray Maternity and Victoria Hospital. These venues also provide the major teaching and training sites for undergraduate and postgraduate training in Paediatrics and Child Health. All paediatric registrars are now required to register for a MMed degree as part of their training.

The research activities of the department are broad. The department has an impressive research output especially in the areas of priority child health problems such as tuberculosis, pneumonia, infectious diseases and HIV. The department has an established clinical research unit at Red Cross War Memorial Children's Hospital, which includes approximately 30 staff members funded on grant support, mainly awarded by international funding agencies especially National Institute of Health (NIH) USA, European Developing Country Clinical Trials Partnership (EDCTP), Wellcome Trust, Global Alliance for Vaccines and Immunisation(GAVI) and the Gates Foundation. Current studies located in this clinical research uinit include studies of childhood pneumonia, of paediatric TB and of HIV-associated illness. Other satellite clinical research sites have been established in secondary level and community based facilities, supported by this central unit. A highlight in 2011 was a large award from the Bill and Melinda Gates Foundation for a birth cohort study, the Drakenstein Child Lung Health study to investigate the antenatal and early life determinants of child health with a focus on pneumonia. There are 3 NRF rated researchers in the Department.

# **DEPARTMENTAL STATISTICS**

## Permanent and long-term contract staff

Professors	3
Associate Professors	7
Emeritus Professors	6
Emeritus Associate Professors	7
Honorary Senior Lecturers	12
Honorary Lecturers	2
Senior Lecturers (full time)	30
Lecturers (full time)	5
Senior Lecturers (part time)	12
Lecturers (part-time)	15
Research Ethics Co-ordinator	1
Research Staff	30
Administrative and clerical staff	16
Total	146

#### **Students**

Doctoral	8
Master's	31
- MPhil	40
Undergraduate	454
Total	533

# RESEARCH FIELDS AND STAFF

# A. ARGENT

Respiratory mechanics in croup; respiratory mechanics and endotracheal suctioning; care practices and inter-personal relationships in ICU; quality of care and mortality risk scoring; management of traumatic brain injury in PICU; HIV in the PICU; ventilator associated pneumonia; cardiomyopathy / myocarditis in children; ethical issues in resource allocation.

#### D.W. BEATTY

Primary immune deficiency disorders; tuberculosis in childhood; paediatric infectious disease.

# H. BUYS

Ambulatory, emergency and outreach care; paediatric HIV disease and nutrition; diarrhoeal disease.

#### M. CARRIHILL

Type 1 diabetes in the South African youth; Neonatal screening programmes; Disorders of sex development.

## A. DAVIDSON

HIV-related malignancy; the impact of ethnicity on Acute Lymphoblastic Leukaemia; Wilms' Tumour; Supportive Care.

#### RICK DE DECKER

22q deletion; genetic associations with cardiac disease in children.

# R. DE LACY

Cystic fibrosis; gastroenterology.

#### S. DELPORT

Paediatric endocrinology; advance diabetes.

#### F. DESAI

Paediatric oncology.

#### R. DIEDERICKS

Emergency paediatrics; common infectious diseases.

#### K. DONALD

Gillespie syndrome; molecular genetics of Duchenne Muscular Dystrophy in South Africa.

#### **B.S. ELEY**

Primary immune deficiency disorders; paediatric tuberculosis; paediatric HIV/AIDS; paediatric infectious disease.

#### E. GODDARD

Paediatric liver disease; transplantation in children; immunology; paediatric infectious disease; paediatric gastroenterology and nutrition.

#### M. HARRISON

Neonatal epidemiology; infection control; neonatal outcomes

#### M. HENDRICKS

Non-Hodgkin's Lymphoma in a developing world setting.

#### L. HENLEY

Research ethics in general. Ethical and legal issues in research with children.

#### J. HEWITSON

Resource allocation and cardiovascular disease; Trisomy 21 and cardiovascular disease; surgical management of patients with a single ventricle.

# A. HORN

HIE and head cooling methodology; cerebral function monitoring, Surfactant treatment therapeutic protocols.

#### M. KROON

Mother-to-child transmission of HIV.

#### M. LEVIN

Genotypic and phenotypic features of allergic Xhosa children; relationship between food allergy and atopic dermatitis; communication issues in management of asthma and allergy in indigenous people in South Africa

#### P. GAJJAR

Renal disease; paediatric organ transplantation especially infectious complications; paediatric hypertension including

Takayasu's Arteritis; acute renal failure and peritoneal dialysis; paediatric HIV nephropathy; adolescent medicine.

#### J. LAWRENSON

Myocarditis and cardiomyopathy – a retrospective review of patients admitted to Red Cross Hospital since 1989; rheumatic fever in South African children; Thoracopagus conjoined twins.

#### L. LINLEY

Kangaroo mother care; HIE and the effect of head cooling.

#### G. MOLLER

Neonatal jaundice

#### **B. MORROW**

Endotracheal tube suctioning; paediatric respiratory infections including *Pneumocystis jirovecii* and cytomegalovirus; ventilator associated pneumonia in paediatrics; physiotherapy in the paediatric intensive care unit; respiratory mechanics; cystic fibrosis.

#### R. MULOIWA

Pertussis in children hospitalised with Lower Respiratory Tract Infection (LRTI).

#### A. NDONDO

Hydatid disease of the spine; epilepsies in childhood;neurometabolic disorders; the ketogenic diet in the African context; Rett syndrome; optimal management of refractory status; non-polio enterovirus infections.

#### J. NUTTALL

Paediatric HIV/AIDS and tuberculosis; pharmacokinetics & dosing of antiretroviral and antituberculous drugs; immune reconstitution inflammatory syndrome.

#### R. PETERSEN

HIV-1 and optimal anticonvulsants.

#### V. RAMANJAM

Phenotype, neuroimaging and neurocognitive characteristics of children with neurofibromatosis type 1; DAX1 mutation.

# N. RHODA

Neonatal care in rural communities / third world countries; Outreach; Distance learning; Care of the ELBW in resource limited settings.

#### M. RICHARDS

Developmental medicine

#### G. RIORDAN

Mitochondrial disease; ADHD.

#### P. ROUX

Paediatric HIV/AIDS; ethics; palliative care.

#### S. SALIE

Infection in the PICU; HIV infection in the PICU.

#### B. SCHLEGEL

Tuberous sclerosis.

## C. SCOTT

Paediatric Systemic Lupus Erythematosus; Juvenile Idiopathic Arthritis; Fibrodysplasia Ossificans Progressiva; HIV Arthropathy

#### A. SPITAELS

Paediatric endocrinology, metabolism and diabetes; social circumstances, diabetes control, intersex.

#### P. SPRINGER

Management and outcome in tuberculous meningitis; neurodevelopment in children with HIV/Aids (with Stellenbosch University).

#### G. SWINGLER

Systemic literature reviews; clinical epidemiology/ evidence-based health care; epidemiology of clinical research; research methods; diagnostic test accuracy; diarrhoeal disease; respiratory infections.

#### C. THOMSON

Follow-up of the high risk infant; HIE and the effect of head cooling

#### L. TOOKE

Neonatal research including PMTCT; general paediatrics.

#### F. VAN BEVER DONKER

Botulinum therapy in cerebral palsy.

#### A. (NIKI) VAN NIEKERK

Neonatal cardiology.

# A. VANKER

Indoor air pollution and tobacco smoke exposure and the effects on lung health.Determinants of childhood pneumonia.

#### K. WALKER

Sydenham's chorea; post streptococcal movement disorders. HIV and optimal anticonvulsants

# A.T. WESTWOOD

Epidemiology, diagnosis and management of cystic fibrosis in South Africa; management of acute diarrhoea; causes of death among children; epidemiology of chronic illness in South Africa; health systems for children with long-term health conditions; policy perspectives on children with long term health conditions; adolescent health.

#### J. WILMSHURST

Spinal muscular atrophy; limb girdle muscular dystrophy;

peripheral neuropathies; congenital myopathies; complex epilepsies in childhood; role of video telemetry in paediatric neurology practice; neurofibromatosis; paediatric spinal pathologies; neuroradiological diagnostic and prognostic indicators of TBM, neurological manifestations of HIV; rare neuromuscular disorders; psychological impact of epilepsy surgery; ketogenic diet in epilepsy.

#### D. WOODS

Perinatal distance education; wind up monitoring technology

#### M. ZAMPOLI

Childhood respiratory infections; HIV-associated lung disease; Cystic fibrosis.

#### H. ZAR

Childhood TB (specifically new diagnostic strategies), childhood pneumonia, HIV-associated lung disease; low cost spacer devices for asthma; epidemiology of childhood asthma. Drakenstein child lung health study, a birth cohort study to investigate the antenatal and early life determinants of child health

# **CONTACT DETAILS**

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Research coordinator: Geanine Hopley @ 021-6850810

Email: geanine.hopley@uct.ac.za

# **AFFILIATED DISCIPLINES**

#### ALLIED HEALTH SCIENCES

#### HEAD OF UNIT: SAMEER RAHIM

The Unit of Associated Paediatric Disciplines is multidisciplinary, including all the paediatric therapy professions of Physiotherapy, Occupational Therapy, Dietetics/ Nutrition, Speech Therapy, Audiology and Social Work. The Division undertakes undergraduate and postgraduate teaching and training in all aspects of paediatric care, both acute and chronic. The Division is active in conducting research in Paediatric fields, often collaborating with members of other Divisions. The individual departments also run departmental weekly and monthly CPD programs accredited by UCT.

#### **Students**

Master's	4
Total	4

# Permanent and long-term contract staff (PGWC)

Permanent staff (Full time)	33
Permanent staff (Part time)	2
Community service	4
Total	39

Undergraduate students	66
Elective registered via UCT	18
Post graduate students	30
Total	114

# RESEARCH FIELDS AND STAFF

# LEZANNE LE ROUX (SPEECH THERAPY)

The Nature of Feeding and Swallowing Difficulties in the Paediatric Cerebral Palsy Population Who Have Had Videoflouroscopic Swallow Studies

#### RUKAIYA MOWZER (PHYSIOTHERAPY)

The Role of Closed vs Open Circuit Suction in the Prevention of Ventilator Associated Pneumonia in the Paediatric Population

# THANDI MLINDI (OCCUPATIONAL THERAPY) AWAITING ETHICS APPROVAL

Caregiver Perspective of Caring for a child with Severe Cerebral Palsy Living in Khayelitsha.

# SAMEER RAHIM (PHYSIOTHERAPY) TAKING A 1 YR LEAVE OF ABSENCE DUE TO WORK COMMITMENTS

The Incidence of and Risk factors associated to Ventilator Associated Pneumonia in a PICU with a high HIV prevalence

# SHIHAAM CADER AND BERNADETTE SAAYMAN [DIETITIANS]

Case Series report of all patients receiving SMOF IV lipid at RCWMCH

# CHILD AND ADOLESCENT PSYCHIATRY

#### HEAD OF UNIT: DR WENDY VOGEL

The clinical services associated with the Division of Child and Adolescent Psychiatry are offered in the following units: Outpatient Unit; Consultation-Liaison Unit; Parent-infant Mental Health Service; and Therapeutic Learning Centre (an in-patient unit for children under 13 years.) Training is provided

for psychiatric registrars and clinical psychology interns. In addition, the Division offers a two-year M. Phil. (Child and Adolescent Psychiatry) degree, which leads to registration as a sub-specialist in Child and Adolescent Psychiatry with the Health Professions Council of SA. In addition, staff members in the Division supervise candidates for postgraduate degrees such as Master's and Doctoral degrees. Research interests include adolescent and infant mental health, autism and ADHD, community mental health services research and behavioural manifestations of HIV infection.

# Permanent and long-term contract staff

Associate Professor	1
Senior Lecturers	4
Lecturers	2
Emeritus Professor	1
Honorary staff	3
Total	11

#### **Students**

Master's	1
Registrars Junior	2
Registrars Senior	2
Total	5

<sup>\*</sup>MBChB students rotate through the Division

# RESEARCH FIELDS AND STAFF

#### DR WENDY VOGEL:

Lecturer; ADHD and autism and service delivery.

# BRIAN ROBERTSON

Emeritus Professor; child and adolescent psychiatric epidemiology; impact of violence on children; development of community mental health services; integration of mental health services at primary care level; youthful perpetrators of violent crime; cultural psychiatry and indigenous healers.

# ASTRID BERG

Associate Professor; Senior lecturer and consultant, analytic psychotherapy; infant mental health; culture and mental health.

# **ROD ANDERSON**

Senior Lecturer; analytic psychotherapy.

## WILLEM DE JAGER

Senior Lecturer: Parent-child relational problems

#### NIC SHORTALL

Senior Lecturer; psycho social sequelae of chronic physical illness and medical student training  $\!\!/$  assessment.

#### JON YAKO

Senior lecturer; Cross-Cultural Child Development; Personality & Identity; Family Intervention Research, Social Psychology

#### MARIAN CAMPBELL

Senior Lecturer: The relationship between developmental and attachment theories and theory of mind leading to the ability in children and adolescents to symbolize and develop reflective functions.

# **CONTACT DETAILS**

Postal Address: Division of Child and Adolescent Psychiatry, School of Child and Adolescent Health, Red Cross Children's Hospital, 46 Sawkins Road, Mowbray, 7700

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Please refer to the Psychiatry and Mental Health Research Report for publications by members of the Division: Child and Adolescent Psychiatry.

# CHILD HEALTH UNIT

#### DIRECTOR: ROTATING ACTING HEAD

The Child Health Unit's missionis to contribute to promoting equity in child health. The core business of the Unit is directed at children's public health and community-oriented child health promotion, protection, care and rehabilitation.

The target of the Unit's endeavours is those areas, which have a strong children's public health and interdisciplinary focus, viz. child development and disability, community nutrition, infectious diseases and health policy and service development. The Unit has close links with the Children's Institute.

# Permanent and long-term contract staff

Associate Professor	1
Emeritus Professor	1
Senior Lecturers	1
Administrative staff	1
Total	4

## Students

Postgraduate Senior Registrars	4
Total	4

# RESEARCH FIELDS AND STAFF

#### M. HENDRICKS

Development of paediatric food-based dietary guidelines in South Africa; evaluation of tactile stimulation in infants born to HIV-infected mothers; vitamin A supplementation; management of children with severe malnutrition; human rights and nutrition.

#### J. SHEA

Health promotion and education; the adaptation and piloting of a behavioural intervention to support HIV+ women in the core domains of health, mental health, parenting and HIV prevention for use by non-governmental organizations; an assessment of the feasibility of intervention trials on tuberculosis prevention in schools in the Western Cape Province; development of a certificate course in clinical research.

# CHILDREN'S INSTITUTE

#### DIRECTOR: PROF. SHIRLEY PENDLEBURY

The Children's Institute aims to contribute knowledge and understanding to promotion of policies which govern improvement of child well-being, and fulfillment of the rights of all South Africa's children, with special emphasis on children rendered vulnerable by a range of difficult circumstances. It addresses the needs and rights of South Africa's children through policy research, advocacy and education and other academic activities that contribute to improvement in the policy analysis, formulation, implementation and evaluation processes.

#### Permanent and long-term contract staff

Professors	1
Senior Lecturers (Snr Researchers)	5
Lecturers (Researchers)	1
PASS (Administrative)	6
PASS (Scientific and Technical)	7
Total	20

#### **Students**

PhD	2
Total	2

# RESEARCH FIELDS AND STAFF

#### PROFESSOR SHIRLEY PENDLEBURY

Director; Education; teacher education & development; participatory democracy & social justice; public reasoning.

#### LIZETTE BERRY

Senior researcher; Child socio-economic rights indicators; child poverty.

#### ARIANE DE LANNOY

Senior researcher; Youth in rapidly changing, urban environments; Perceptions of opportunity structure; Education, identity and educational decision-making; HIV/AIDS

#### KATHARINE HALL

Senior researcher; Child poverty; socio-economic rights.

#### **LUCY JAMIESON**

Senior advocacy co-ordinator; Child rights; participatory democracy; governance; law reform & policy development.

#### ANDILE MAYEKISO

Researcher; HIV/AIDS; migration studies; infants & HIV/AIDS; street children; social policy.

#### **HELEN MEINTJES**

Senior Researcher; HIV/AIDS & children; alternative care; social policy; children's participation; media

#### DR TENDAI NHENGA-CHAKARISA

Senior researcher; International law; human rights law; child rights; child labour; applying international children's rights law in African cultural contexts; curriculum design & legal drafting.

#### PAULA PROUDLOCK

Senior Legal Researcher; Child rights; legislative review; law reform; democracy & governance; socio-economic rights for children.

# NORMA RUDOLPH

Senior researcher; Child rights; action research & appreciative inquiry; education; HIV/AIDS & children; evaluation.

# **CONTACT DETAILS**

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# PAEDIATRIC ANAESTHESIA

#### HEAD OF UNIT: ASSOCIATE PROFESSOR JENNY THOMAS

The Unit of Paediatric Anaesthesia, a division of the Department of Anaesthesia (UCT) and SCAH, is responsible for the provision anaesthesia for all children, infants and neonates undergoing surgery or procedures at the Red Cross War Memorial Children's Hospital (RCWMCH) and Maitland Children's Home. This department also provides acute, chronic and palliative care services for the children at this hospital, as well as providing input into the Paediatric Intensive Care services. The Paediatric Pain and Palliative Care Unit /Team is a multidisciplinary group which falls under Paediatric Anaesthesia, run by Professor Thomas, with Dr Michelle Meiring (a Palliative Care specialist paediatrician), SRN Angeline Schrikker (nurse practitioner in pain) and a number of other volunteers from nursing, child and family psychotherapists, child life specialists, aroma therapy, physiotherapy, art therapy and palliative care.

# **Staffing**

The head of this clinical unit is Associate Professor Jenny Thomas, with the following fulltime paediatric anaesthesia specialists: Dr Graeme Wilson, Dr Rebecca Gary, Dr Karmen Kemp and Dr Kotie Bester. The other three specialists rotate on a regular basis between GSH, Maitland Cottage and RCWMCH. There are 6 positions for registrars in training at RCWMCH. A further registrar rotates through intensive care against a paediatrics post.

In addition to teaching, training and lecturing at both under graduate and post graduate levels members of the department have lectured nationally and internationally. They also teach and train members of other disciplines which include paramedics, nurses, surgeons, pharmacists, emergency medicine trainees and family medicine practitioners. Professor Thomas and Dr Myburgh also teach on APLS courses.

# Permanent and long term contract staff

Associate Professor	1
Specialists	7
Registrars	6
Total	14

# RESEARCH FIELDS AND STAFF

#### ASSOCIATE PROFESSOR JENNY THOMAS

Acute and chronic pain management, palliative care, analgesia and sedation, burns, conjoined twins, paediatric

trauma and orthopaediacs, HIV and Aids, transplantation, neonatal anaesthesia and pain, general paediatric surgery, peri-operative behavioural disorders, paediatric peri-operative audits of deaths and critical adverse event reporting.

#### **GRAEME WILSON**

Paediatric pharmacology, total intravenous anaesthesia techniques, target-controlled anaesthesia, cardiothoracic anaesthesia.

#### **REBECCA GRAY**

Transfusion medicine, vascular access, premature infants, ultrasound application, cardiacs, general paediatric surgery and burns.

#### KARMEN KEMP

Cardiac anaesthesia, childhood malignancies, teaching.

#### KOTIE BESTER

Ultrasound and echocardiography applications in paediatric anaesthesia, modalities for analgesia and sedation, interventional radiology and MRI.

A number of paediatric anaesthetists do sessions at RCWMCH, and these include Dr Owen Hodges (research in Burns blood transfusion techniques), Tony Butt, Geraldine Lloyd, David Kirsch, Hanlie van Dyk, and Rosalie Spies.

# **CONTACT DETAILS**

Postal address: Division of Paediatric Anaesthesia, School of Child and Adolescent Health, University of Cape Town, Red Cross War Memorial Children's Hospital, Klipfontein Road, Rondebosch, 7700, Cape Town, South Africa.

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# PAEDIATRIC DERMATOLOGY

#### HEAD OF UNIT: ASSOCIATE PROFESSOR N. KHUMALO

The division's only consultant runs the clinical service and is assisted by dermatology registrars from Groote Schuur Hospital for two clinics a week.

Professor Nonhlanhla Khumalo is NRF-rated and runs the only academic hair research clinic in the country (with Groote Schuur Hospital's Dr Ngwanya). Her research interests include the epidemiology and treatment of hair and scalp disorders that uniquely affect individuals with afro-textured hair. Her international collaboration studies use various research tools - scanning (and transmission) electron microscopy and amino acid analysis of hair.

Current studies are investigating the link between folliculitis keloidalis nuchea and HIV transmission. She is also developing a hair classification tool that will be useful for elucidating the relationship between the pathogenesis of alopecia and hair phynotype.

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## **Permanent staff**

Associate Professor	1	
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# PAEDIATRIC PATHOLOGY

#### HEAD OF HISTOPATHOLOGY UNIT: DR K. PILLAY

The Unit of Paediatric Pathology is primarily an NHLS laboratory service unit to Red Cross Children's Hospital and provides paediatric and neonatal services to other Western Cape Health Care Institutions. The pathology service functions as an amalgam of three sub units comprising: Anatomical Pathology, Chemical Pathology and Haematology. Undergraduate teaching activities are largely undertaken through equivalent disciplines at Groote Schuur Hospital and the Medical School of the University of Cape Town to medical and physiotherapy students. Postgraduate teaching is undertaken to MPhil (Paediatric Pathology), MMed (in all the pathology disciplines), and MSc and PhD students at UCT. Research activities are related to laboratory aspects of child health and molecular mechanisms underlying paediatric disease. Research also undertaken through collaborative projects with clinical colleagues, mainly in paediatrics and paediatric surgery.

# PAEDIATRIC NUCLEAR MEDICINE

#### HEAD OF UNIT: DR A. BRINK

The Paediatric Nuclear Medicine Service is part of the Department of Paediatric and Child Health. It provides the Nuclear Medicine investigations and therapy for all neonates and children being treated in facilities associated with UCT and supports State and Private Health Care facilities in the Western Cape and other provinces which do not have a dedicated Paediatric Nuclear Medicine Service. In addition, staff actively participate in the Division of Nuclear Medicine at Groote Schuur Hospital.

Registrars from a number of institutions spend time at the Children's Hospital as part of their training, as do radiography students from Groote Schuur Hospital. Other activities include participation in International Congresses and the College of Nuclear Physicians.

# Permanent and long term contract staff

Senior specialist	1
Part-time specialist / Emeritus Associate Profes-	1
sor	
Total	2

# **Students**

Registrars	1
Total	1

# Permanent and long-term contract staff

Senior Lecturers	3
NHLS Staff	40
Total	43

# Students

Registrars	3
Total	3

# RESEARCH FIELDS

Renal scintigraphy, "milk" scans in gastro-intestinal motility disorders, limb perfusion in children with vascular compromise due to infection or burns, PET/CT applications in children, and brain perfusion scintigraphy.

# CONTACT DETAILS

Postal address: Paediatric Nuclear Medicine, School of Child and Adolescent Health, University of Cape Town, Red Cross War Memorial Children's Hospital, Klipfontein

# RESEARCH FIELDS AND STAFF

#### DR MARGARET H.G. SHUTTLEWORTH

Molecular genetics of paediatric leukaemias and neuroblastomas; paediatric myelodysplastic syndromes.

#### DR KOMALA PILLAY

Pathology of muscle; pathology of placentas from HIV positive patients; lymphomas.

#### DR GEORGE VAN DER WATT

Inherited metabolic disorders.

# CONTACT DETAILS

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# PAEDIATRIC RADIOLOGY

#### HEAD OF UNIT: DR. T. KILBORN

A clinical radiology department providing imaging to all divisions in the School, performing a total of approximately 46,000 examinations per annum. Imaging modalities include plain-film radiography, computed and digital radiography, digital fluoroscopy, ultrasound (including Doppler), computerised tomography (CT), magnetic resonance imaging (MRI), angiography and interventional radiology. The Division conducts a Postgraduate teaching program for three registrars registered for the M.Med (Diagnostic Radiology) at the University of Cape Town on an ongoing rotational basis. An undergraduate lecture series in paediatric radiology is provided at 5th year level. Training in paediatric sonography is conducted for B.Tech (Ultrasound) students of the Cape Peninsula University of Technology.

In addition, the Division offers an annual Paediatric Radiology Fellowship, providing further training in the discipline for qualified radiologists. Fellows are registered for the University's Postgraduate Diploma in Paediatric Radiology. The Fellowship program is funded by the Harry Crossley Foundation

# Permanent and Long-term Contract Staff

Senior Lecturers	2
Lecturers	1
Radiographers and Aux. Staff	28
Total	31

## **Students**

PhD	1
Registrars/Master's	3
Harry Crossley Fellow	1
Total	5

# RESEARCH FIELDS AND STAFF

#### T. KILBORN

Oncology and HIV: HIV and Non-Hodgkin's Lymphoma; HIV and immune reconstitution; Neonatology.

#### N. WIESELTHALER

Neuro-imaging including neuro-oncology; orthopaedic imaging; interventional radiology; new technology: the role the Lodox Statscan in paediatric polytrauma.

# **CONTACT DETAILS**

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# PAEDIATRIC SURGERY

# HEAD OF UNIT: PROF. A.J.W. MILLAR

The department functions as a tertiary health care centre for paediatric surgery for the University of Cape Town and the Red Cross War memorial Children's Hospital. The department is a national/international centre for postgraduate paediatric surgical career development and is accredited with the HPCSA.

An extensive surgical outreach programme is in existence primarily to improve the surgical care of children at secondary and primary health care levels. The division is regarded as a national centre for organ transplantation, specialized hepatobiliary surgery, neurosurgery, cardiothoracic surgery, oncology and burn care in children and for the separation of conjoined twins.

Research is being conducted in the department into a wide variety of aspects of paediatric surgical practice including gastrointestinal surgery, minimal invasive surgery, trauma care and prevention, liver and renal transplantation, renovascular hypertension, burn therapy, pain assessment and management, conjoined twins and common diseases of Africa including tuberculosis and HIV/AIDS. Financial support is received from the MRC, Pharmaceutical companies, private donations and from the Lombardi Government in Italy.

# Permanent and long-term contract staff

Professor	2
Emeritus Professor	2
Adjunct Professor	1
Associate Professor	1
Senior Lecturers	2
Career Paediatric Surgical Registrars	2
African Fellowship Training Programme	2
Research Technologists / Social Worker	5
Administrative staff	2
Total	19

#### **Students**

Doctoral	1
Master's	3
Undergraduate	168
Total	172

# RESEARCH FIELDS AND STAFF

#### PROFESSOR A.J.W. MILLAR

Biliary atresia, choledochal cysts, liver transplantation, renovascular hypertension, non-transplant surgery for short bowel syndrome, oesophageal replacement with colon, hepatoblastoma, bilateral Wilms' tumour, surgical management of intestinal failure

#### EMERITUS PROFESSOR H. RÖDE

Burn and nutrition research; short bowel syndrome; HIV/ AIDS; oncology and trauma.

# EMERITUS PROFESSOR M.R.Q. DAVIES

General paediatric surgical conditions.

#### ADJUNCT PROFESSOR R.A. BROWN

Gastrointestinal surgery; surgical endoscopy; constipation and gastro-intestinal polyposis.

# PROFESSOR A.B. VAN AS

Traumatology; child accident prevention; vascular injuries; gastro-intestinal diseases.

#### ASSOCIATE PROFESSOR A. NUMANOGLU

Minimal invasive surgery; transplantation; HIV/AIDS and diseases of the gastro-intestinal tract, teaching with technology, web based outreach, neonatal surgery

#### S. COX

The child sexual assault 'epidemic', Neonatal burns, surgical aspects of necrotising enterocolitis and other childhood general surgical conditions.

#### DR A. ALEXANDER

HIV/AIDS and surgical implications, surgical curriculum development. surgical research, urology, minimally invasive surgery.

#### DR R. ALBERTYN

Paediatric pain; rehabilitation and HIV/AIDS.

#### J. RAAD

Manometry and gastro-enterology.

DIRECTOR: CHILDSAFE (POST VACANT)

Child accident prevention.

# **CONTACT DETAILS**

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# POISONS CENTRE

#### HEAD OF UNIT: DR C. ROBERTS

The Poisons Information Centre maintains and distributes aninformation database designed to help clinicians in Southern Africa treat poisoned adults and children. All types of potentially toxic substances are included with a particular accent on local South African trade names and natural toxins. The treatment protocols are tailored for the South African situation. The database is used at 30 treatment centres countrywide and by both the other Poisons Centres, to underpin poisons advice given to health workers and the public. It is also distributed to centres in Botswana, Kenya, Mozambique, Nigeria and Zimbabwe.

The Poisons Emergency Telephone line is answered by the staff of the Poisons Information Centre during office hours on weekdays, and after hours in the Emergency Department of the hospital, using the information database.

The Centre collects data on all children seen at Red Cross Children's Hospital with known or suspected poisoning.

#### **Permanent and Long-term Contract Staff**

Total	4
Pharmacists	2
Medical officers	2

# RESEARCH FIELDS AND STAFF

All staff members are involved in data collection

Dr Kate Balme is responsible for case data on poisoning.

# **CONTACT DETAILS**

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# SOUTH AFRICAN TUBERCULOSIS VACCINE INITIATIVE (SATVI)

#### HEAD OF UNIT: PROFESSOR WILLEM HANEKOM

The mission of the South African TB Vaccine Initiative (SATVI) is to develop TB vaccines that would impact on the world-wide epidemic. This large research division accommodates several disciplines including paediatrics, infectious diseases, epidemiology, public health, immunology and clinical/biological sciences. SATVI has a large and well-developed clinical field site in the Boland Overberg region, with the core on the premises of the Brewelskloof TB Hospital in Worcester; most clinical/ epidemiological studies and clinical trials of new TB vaccines are conduced from here. SATVI's state-of-the-art, SANAS accredited immunology laboratories are housed in the Institute of Infectious Diseases and Molecular Medicine at the Faculty of Health Sciences, with a smaller lab at the field site. The common goal of research activities is to better understand the clinical and biological aspects of TB in order to facilitate TB vaccine development. To this end, SATVI has already completed early phase clinical trials of four novel TB vaccines and is conducting proof-of-concept phase IIb trials of the two most clinically advanced TB vaccines in infants. SATVI is actively involved in training of staff, postgraduate students, and postdoctoral fellows and is very active internationally in driving best practices for conducting TB vaccine trials. The division has one of the highest income from research awards in the University and generates a large number of outputs, as measured by accredited publications. Divisional leaders are represented on international bodies that guide policy and research in TB vaccines.

#### Students and Postdoctoral Fellows

Master's	5
PhD	5
Postdoctoral Fellows	3
Total	13

#### Staff

Permanent staff (Full time)	157
Permanent staff (Part time)	1
Total	158

# RESEARCH FIELDS AND STAFF

#### **Research Staff**

#### WILLEM HANEKOM

TB vaccine development and testing; Correlates of risk of TB in infants and adolescents; Immunopathogenesis of TB in infants, adolescents and adults.

#### HASSAN MAHOMED

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants and adolescents.

#### MARK HATHERILL

Epidemiology and diagnosis of TB in infants and adolescents; TB vaccine testing in infants of HIV infected mothers.

# HENNIE GELDENHUYS

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants and adolescents.

#### MICHELE TAMERIS

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants and adolescents.

# ANGELIQUE KANY KANY LUABEYA

TB vaccine development and testing; Epidemiology and diagnosis of TB in infants and adolescents.

# CHERYL DAY

TB vaccine development and testing; Immunopathogenesis of TB in infants, adolescents and adults.

#### THOMAS SCRIBA

TB vaccine development and testing; Correlates of risk of TB in infants and adolescents; Immunopathogenesis of TB in infants, adolescents and adults.

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# RESEARCH OUTPUT

#### Chapters in books

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# DEPARTMENT OF CLINICAL LABORATORY SCIENCE

# DIVISION OF ANATOMICAL PATHOLOGY

#### HEAD OF DIVISION: PROFESSOR DHIREN GOVENDER

The Division of Anatomical Pathology has both diagnostic and academic components. The diagnostic laboratories form part of the National Health Laboratory Service (NHLS) complex at Groote Schuur and Red Cross War Memorial Children's hospitals.

The diagnostic laboratories are at both sites and provide a diagnostic surgical pathology, cytopathology and autopsy services to GSH, the academic hospital complex and associated hospitals and clinics in the Western Cape. The division also serves as a public and private tertiary referral and consultation centre for Anatomical Pathology.

These service commitments drive most of the research programmes that are patient and disease orientated. The Division has recently acquired a research laboratory and currently has 4 MSc, 16MMed and 2 elective students. The division is currently involved in a range of research activities using a variety of techniques. The main research focus is in the field of molecular pathology pertaining to diseases that are common in South Africa and the Western Cape - these include various cancers, in particular those affecting disadvantaged population groups. Other research areas include tuberculosis, cardiomyopathy and foetal-alcohol syndrome. The Division has introduced a molecular pathology programme that addresses the educational and training requirements of young pathologists and scientists, specifically in the field of Anatomical Pathology.

The Division continues to contribute to the cancer module in the BSc Honours programme. The first intake of students in the reintroduced MPhil course in Paediatric Pathology will be completing in 2012.

#### Collaborative Research

The Division has active collaborations internationally with the United Kingdom and has recently started discussions with institutions in Kenya, Tanzania, Zambia and Botswana. There are internal collaborations with the departments of Surgery, Medicine, Cardiology, Obstetrics and Gynaecology, Radiation Oncology, Human Genetics and Medical Biochemistry.

# **Departmental Statistics**

# Permanent and Long-term Contract Staff on UCT Establishment

Professor	1
Scientists and Research staff	1
Administrative and Clerical Staff	1
Total	1

#### Permanent Academic Staff on NHLS Establishment

Associate Professor	2
Senior Lecturer	3
Lecturer	3
Total	8

# **Honorary Staff**

Honorary Senior Lecturer	1
Total	1

#### **Students**

Master's (MMed)	16
Master's (MSc)	4
Master's (MPhil Paediatric Pathology)	3
Undergraduate (MBChB) Year 2	209
Undergraduate (MBChB) Year 3	183
Undergraduate (MBChB) Year 5 (Gynaecology)	200
Allied Health Sciences	140
Elective students	2
Total	757

# **DISTINGUISHED VISITORS**

Prof Runjan Chetty – Nuffield Department of Clinical Laboratory Sciences, Oxford, UK Prof Sarah Pinder – King's College, London Dr Marta Cohen – Sheffield University, UK Dr Germaine Liebrechts-Akkerman – Netherlands: elective postgraduate student

# RESEARCH FIELDS AND STAFF

## PROFESSOR DHIRENDRA GOVENDER

Pathobiology of cancers, especially gastrointestinal tract cancers and paediatric solid tumours.

#### A/PROFESSOR RICHARD NAIDOO

Molecular pathology and biomarkers in cancer.

#### A/PROFESSOR HELEN WAINWRIGHT

Foetal, perinatal & neonatal pathology, placental pathology, respiratory pathology including TB, cardiac pathology including cardiomyopathy and liver disease.

#### DR MAUREEN DUFFIELD

Neuropathology, renal pathology and electron microscopy.

#### DR MICHAEL LOCKETZ

Gastrointestinal tract pathology.

#### DR SHUMANI MALAKA

Breast, gynaecological and thyroid gland pathology.

#### DR KOMALA PILLAY

Paediatric pathology, lymphoma and fine needle aspiration cytology.

#### DR RAVEENDRA SOOKHAYI

Lymphoma

#### DR HUE-TSI WU

Gynaecological pathology and tissue microarrays.

#### CONTACT DETAILS

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# DIVISION OF CHEMICAL PATHOLOGY

(Including the Chemical Pathology Sections of Groote Schuur Hospital and Red Cross War Memorial Children's Hospital)

# HEAD OF DIVISION: PROFESSOR DAVID MARAIS

The Division of Chemical Pathology is comprised of both academic and diagnostic sections. The academic section is located in the Faculty of Health Sciences and the diagnostic laboratories are based in NHLS core laboratory, Groote Schuur Hospital and and Red Cross Children's Hospital. These offer a comprehensive dedicated routine chemical pathology diagnostic service to both adult and paediatric patients attending the Groote Schuur and Red Cross Children's Hospitals. There is extensive clinical interaction with members of staff participating actively at the laboratory/ward interface by attendance at ward rounds and clinical meetings with the Division of Endocrinology, Porphyria service and the Lipid Clinic. The Division has a strong specialist diagnostics and research focus on metabolic disorders of acquired and familial aetiology. In addition, the

Division has a proud historical tradition of basic science research that cascades down into registrar training. Teaching commitments address both undergraduate and postgraduate needs with a number of MSc, PhD and MMed students under current supervision. The Division is also actively involved in contributing to the teaching programmes of the Division of Medical Biochemistry and the Department of Molecular Cell Biology in the Faculty of Science.

Research activities cover the molecular cell biology of insulin signalling and insulin resistance, the molecular basis of metabolic disease in HIV/AIDS, identification of new biomarkers using proteomics, biochemical mechanisms of ion and drug pumps, the identification of new drug targets in Tuberculosis and Leishmaniasis, the molecular genetics of inherited metabolic disorders, mitochondrial myopathies and erythrocyte antioxidant biochemistry. Individual researchers have established international collaborations across the world. The Division is actively engaged in a number of outreach programmes across Africa. Strong academic links are in place with Walter Sisulu University and there are regular teaching/ examining visits from academic staff of the Division of Chemical Pathology to Mthatha. A joint registrar training platform has been established with the University of Stellenbosch and joint academic activities take place regularly between the two Divisions. The Division also regularly hosts supernumerary staff from neighbouring SADC countries (currently Malawi and Zambia) for the purpose of postgraduate training. The Division has established itself as one of the premier Chemical Pathology academic units in Africa for training and research. The Division has held a number of training courses in laboratory methods and laboratory management and has become the preferred provider of these in Africa. In addition, the Division has an active academic programme which is comprised of CPDaccredited weekly journal clubs, seminars and clinical 'grand rounds'. The Division has also established a tradition of hosting international guest lecturers under the auspices of the Visiting Lecturer's fund.

The Division's Research Laboratories and expertise have attracted junior and senior colleagues from other specialties and institutions who have been keen to interact with colleagues in the Division. In particular, these have included the Department of Medicine (Prof. Bongani Mayosi, Prof. Peter Meissner); the Department of Chemical Pathology at the University of Stellenbosch (Prof Rajiv Erasmus); Anatomical Pathology, University of Cape Town (Prof Dhiren Govender).

#### **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Professors	1
Associate Professors	0
Emeritus Professors	2
Medical Natural Scientists	3
Medical Specialists	5
Research Officers	0
Research Assistants	0
Administrative and Secretarial Staff	1
Technical Officers	2
Departmental Assistants	2
Total	16

#### **Students**

Doctoral	6
Master's	3
M Med	5
Honours	
Undergraduate	200
Total	214

# RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

#### DR PETER A. BERMAN

Principal Specialist; Insulin gene polymorphisms; red cell chemistry and biochemistry, urate metabolism, metabolic disorders, Oxalate metabolism and the influence of ascorbate on oxalate excretion; undergraduate and postgraduate teaching

#### DR HELEEN VREEDE

Senior Specialist; oversees routine laboratory service at GSH; method development; information technology;

# DR GEORGE VAN DER WATT

Specialist; oversees routine laboratory and inherited metabolic disease diagnostic service at RXH; Chemical Pathology of HIV/AIDS; undergraduate and postgraduate teaching; paediatric biochemistry.

#### DR FIERDOZ OMAR

Oversees the routine diagnostic and molecular laboratory service at Groote Schuur Hospital in charge of the undergraduate teaching portfolio; Postgraduate teaching; Role of cell-free DNA in prenatal sex determination

#### DR DAVID HAARBURGER

Oversees the routine diagnostic laboratory service at Groote Schuur hospital and supports method development

and diagnostic interpretation of IMD profiles at RXH. Undergraduate teaching portfolio; Postgraduate teaching. Proteomic markers of HIV, molecular genetics of androgen insensitivity syndrome, steroid profiling by LC MS MS.

#### DR JUDY A. KING

Medical Scientist (Principal); hypertension; renin; aldosterone; sodium channel mutations; routine diagnostic reviewing; undergraduate and postgraduate teaching

#### DR E. PATRICIA OWEN

Medical Scientist (Principal); inherited metabolic disease; homocysteine; mitochondrial DNA mutations; TPMT mutations; urea cycle disorders; hypertension; preeclampsia, epithelial sodium channel mutations; new born screening for glutaric acid uria type 1, postgraduate teaching

#### MS FELICITY LEISEGANG

Medical Scientist (Senior II); molecular genetics of galactosaemia; spinal muscular atrophy; cystic fibrosis; Western blotting in limb-girdle muscular dystrophy; TB-PCR; application of PCR to genetic screening; postgraduate teaching

#### **Emeritus Professors**

#### **EMERITUS PROFESSOR ERIC HARLEY**

Purine and pyrimidine metabolism; comparative biology of red cell antioxidant systems, wildlife conservation, genetics, theoretical evolutionary genetics.

# **EMERITUS PROFESSOR MERVYN BERMAN**

#### **Honorary Professors**

Professor Ishwarlal Jialal; Honorary Professor of Chemical Pathology and Medicine, University of Cape Town; Robert E. Stowell Endowed Chair in Experimental Pathology, Director of the Laboratory for Atherosclerosis and Metabolic Research, and Professor of Internal Medicine, Division of Endocrinology, Clinical Nutrition and Vascular Medicine, at the University of California, Davis, Medical Center.

# CONTACT DETAILS

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# DIVISION OF FORENSIC MEDICINE AND TOXICOLOGY

(Including the Gender, Health and Justice Research Unit)

#### HEAD OF DIVISION: PROFESSOR L.J. MARTIN

A range of activities related to the role of Forensic Medicine in public policy and health promotion are being pursued. These relate specifically to violence against women and children, the role of drugs and toxins in deaths, and firearm injuries. The provision of a sustainable database on violence and injury in the Cape Town Metropole is being implemented as an urgent research priority. We provide inputs into the National & Provincial Injury Mortality Surveillance System (NIMSS & PIMSS).

A large component of operational activity of the Division of Forensic Medicine is that of service delivery. The academic staff are on the joint staff establishment of the University of Cape Town and the PGWC: Health; Forensic Pathology Services. This is a fairly new programme of the PGWC: Health, established in April 2006, when the responsibility of "mortuary services" was transferred to the Province from SAPS. We are responsible for the medico-legal investigation of death of all persons who die within the Metropole, an area comprising approximately 4,5 million persons, stretching from Atlantis on the West Coast, the Peninsula, the City, to everything south of the N2 up to, but not including, Khayelitsha. Our clinical services are based at Salt River Mortuary and we perform approx 3 500 autopsies per annum. The Division does not yet have a dedicated research laboratory, but this should be established in 2011. We do provide a clinical teaching neuropathology laboratory with a specialist neuropathologist. This, together with the heavy investigative service load and a critical shortage of pathologists, has limited research activities within the Division, but this will change with the establishment of our research laboratory and our proposed master's course in Forensic Science (2012).

There are active collaborations with the departments of Anatomical Pathology, Surgery, Obstetrics and Gynaecology, Human Genetics, Paediatrics and Psychiatry; and EMS and the Law faculty.

# **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Head: Clinical Department/Professor	1
Head: Clinical Unit	1
Specialists	2
Medical Officer	1
Senior Lecturer / Course Convener	1
Chief Medical Technologist	1
Medical Technologist	1
Administrative and clerical	5
Admin & Clerical (part-time)	1
Laboratory Assistant	1
Total	15

#### **Students**

Master's (M Med)	6
Undergraduate (MBChB) - Year 5	188
Undergraduate (LLB) - Final year	19
Special Study Module - Year 2	1
Total	214

# RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

#### PROFESSOR L.J. MARTIN

Head of Clinical Department & Professor: Management protocols for rape survivors; domestic homicide; monitoring implementation of rape law reforms; domestic violence guidelines for the health sector; epidemiology of female murder; aortic disease; indicators for the Lodox Statscan in children; age estimations for children using Lodox statscans; paediatric trauma and World Cup Soccer; National study of female and children homicide in South Africa; identification of areas for quality improvements in preventable trauma deaths at Groote Schuur Hospital.

#### DR G.M. KIRK

Head of Clinical Unit & Senior Lecturer: Sudden deaths in sport; firearm injuries; death notification; drug-related deaths; forensic histopathology; history of forensic medicine

#### DR Y.Y. VAN DER HEYDE

Senior Specialist & Senior Lecturer: The effects of prenatal alcohol exposure; paediatric mortality; animal bites in children; early adolescent suicide, child homicide including child abuse; sudden unexpected death in childhood including SIDS.

#### DR L. LIEBENBERG

Senior Specialist & Senior Lecturer: Firearm fatalities and final judicial outcome; aortic disease project; mast cell Tryptase; case studies – curious deaths; atherosclerotic disease prevalence in the Cape Town population; Lodox X-ray application in the forensic setup.

#### DR I.J. MOLEFE

10 year retrospective study of epidemiology and analysis of injury patterns of femicide and rape homicide in Cape Town: A follow-up study.

#### DR S. MAISTRY

Deaths on Table Mountain: A retrospective analysis 2000-2011

#### DR S. MFOLOZI

Development of the NecroChronometer: determining the post-mortem interval using a combination of three methods and location-specific weather information

#### DR E.B. AFONSO

Identifying trends and risk factors for deaths in police custody in the Cape Town Metropole, 1999-2008

#### DR A. KHAN

SNP genotypes and skin tone variation in South Africa; male sexual assault; maternal deaths (a forensic perspective)

# **CONTACT DETAILS**

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Toxicology, P O Box 13914, Mowbray, 7705

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# **Gender, Health and Justice Research Unit**

Acting Director: Dr Kelley Moult
Director: Associate Professor Lillian Artz

The mission of this Unit is to improve service provision to victims of violence against women in South Africa through research, advocacy and education. Drawing together established researchers with a strong record of social-action research in disciplines including law, criminology, forensic sciences and pathology, gynaecology, and psychology, this Unit is the first of its kind in South Africa to respond to the pressing need for research and interventions that cross disciplines in support of our efforts to address the alarmingly high levels of violence against women in this country. The Unit fulfils its mission by conducting rigorous evidence-based research into:

- South African women's experiences of sexual and gender-based violence;
- The responses of women, their communities and the criminal justice, health, and welfare systems to violence against women;
- The intersections and disjunctures between health and criminal justice responses to violence against women:
- The developmental context in which violence occurs, and the role of violence in perpetuating women's under-development;
- The implementation difficulties of translating 'law on paper' into 'law in practice' in health, criminal justice and medico-legal settings;
- The development of indicators for monitoring the implementation of progressive legislation and compliance by criminal justice and health sector personnel with statutory duties;
- Risk factors and women's pathways to crime and experiences and impacts of female incarceration;
- International and local models of best practice for addressing violence against women.

The Gender, Health and Justice Research Unit was awarded the University of Cape Town's Social Responsiveness Award for 2009.

#### **Unit Staff**

Research Staff	7
Associate Research Staff	2
Interns	4
Administrative	1
Total	14

# RESEARCH FIELDS AND STAFF

#### ASSOCIATE PROFESSOR LILLIAN ARTZ

Feminist legal theory; women and law reform; sexual offences; domestic violence; commercial sex work; research ethics; HIV; the medical management of female survivors of violence; incarcerated women

#### DR KELLEY MOULT

Feminist criminology; gender-based violence and policy; domestic homicide; forensics, the intersection of traditional and western justice systems, research methods.

#### YONINA HOFFMAN-WANDERER

International and comparative law; women's socioeconomic rights; religious and cultural rights; incarcerated women; sentencing

#### DR STEFFI RÖHRS

Women's rights, HIV/AIDS and gender-based violence; HIV/AIDS and the law; law reform

#### KATE ASCHMAN

Policing and law enforcement; sexual offences and HIV; human rights; gender-based violence and incarcerated women

#### LAURA M HUSS

Incarcerated women; imprisonment.

#### TALIA MEER

Gender-based violence, women's rights, LGBTI rights, access to justice, rural development, and political ecology

# PROFESSOR JEANNE FLAVIN (FULBRIGHT SCHOLAR – FORDHAM UNIVERSITY)

The impact of the criminal justice system on women; social and civil rights of women; reproductive rights.

# HELENE COMBRINCK (UNIVERSITY OF THE WESTERN CAPE)

Disability law and policy, domestic violence and disability.

#### Administration

#### **DEBBIE VICTOR**

#### Interns

SALLY POPE (NEW YORK UNIVERSITY)
VIVIANA ARCIA (STANFORD UNIVERSITY)
JAYNA KUSADA (DEPARTMENT OF SOCIAL
DEVELOPMENT, UCT)
TALIA MEER (DALHOUSIE UNIVERSITY)

# **CONTACT DETAILS**

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# DIVISION OF HAEMATOLOGY

(Including the UCT Leukaemia Unit)

#### HEAD OF DIVISION: PROFESSOR N. NOVITZKY

# **Diagnostic Services**

The Division of Haematology at Groote Schuur Hospital is a complex unit with multi disciplinary activities that include outpatient clinics, admission beds as well as diagnostic and research laboratories. The clinical services are organised under the umbrella of the Department of

Internal Medicine, while the laboratory diagnostic sections are under the broader organisation of the Department of Clinical & Laboratory Sciences and National Health Laboratory Service (NHLS).

The laboratory continues to offer comprehensive diagnostic testing for the diagnosis and management of all haematological malignancies. It also offers diagnostic services for a Comprehensive Haemophilia Centre, as well as to a number of tertiary / quaternary programs. This laboratory also acts as a tertiary referral centre for local hospitals and outlying clinics of the Western Cape, as well for referral samples from the Eastern Cape. The routine and molecular haematology laboratories were again successfully accredited by SANAS.

# **Teaching and Training**

The department remains a primary teaching and training site for medical technologists, technicians, undergraduate medical students of the University of Cape Town and registrars (specialising postgraduate doctors) in Haematopathology and Clinical Haematology. Currently there are five haematology pathology registrars and one clinical pathology registrar who are enrolled in the UCT postgraduate program.

Teaching and training is provided for student technologists from other laboratories who have undergone training in specialised haematology tests performed at this centre.

The following molecular assays were added to the schedule during this period:

Short Tandem Repeat (STR) analysis which monitors bone marrow engraftment following allogeneic stem cell transplantation

FLT3 D835/839 point mutation detection for prognostication of Acute Myeloid Leukaemia (AML)

Consultant pathologists Dr Almero Du Pisani, Dr Jessica Opie and Dr Monalisa Ntobogwana as well as Mr Francois Barton have delivered training courses to NHLS technologists from the Eastern Cape on basic and advanced morphology and haematological malignancies. These courses have been delivered both in the Eastern Cape and at NHLS Green Point Complex in Cape Town.

# **Divisional Statistics**

#### Permanent and Long-term Contract Staff:

Professor	1
Clinical Service	
Senior Specialists	1
Specialist	1
Clinical Registrars	3

Senior House Officers	2
Chief Professional Nurse	2
Administrative and clerical staff	3
Diagnostic Service	
Senior Pathologist	1
Pathologists	2
Pathologist part-time	1
Scientist	1
Pathology Registrars (Special and Clin Path)	7
Laboratory Manager	1
Medical Technologists	15
Technicians	4
UCT Leukaemia Unit	
Scientist	1
Research Officer	1
Research Technologist	1
Clinical Research Co-Ordinator	1
Administrative and clerical staff	1
Laboratory assistants (medical school)	2

#### **Students**

Doctoral	1
Master's	4
MMed	2

# RESEARCH FIELDS AND STAFF

# PROFESSOR NICOLAS NOVITZKY

Haematopoietic stem cell biology; clonogenic assays; haematopoietic stem cell transplantation; immune reconstitution; haematological malignancies

#### DR CECILE DU TOIT

Haematopoietic stem cell transplantation; haematological malignancies; haemophilia

# DR ANDREW MCDONALD

Haemophilia; thrombophilia; stem cell transplantation

# DR JESSICA OPIE

Molecular biology of neoplasia: chronic myelogenous leukaemia; coagulation abnormalities

#### DR KAREN SHIRES

Molecular biology and diagnostics

#### DR SHAHEEN MOWLA

Minimal residual disease and flow cytometry.

#### MRS RYGANA ABDULLA

Cellular biology of neoplasia; clonogenic assays

# **CONTACT DETAILS**

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# **DIVISION OF HUMAN GENETICS**

(Including the MRC/UCT Human Genetics Research Unit and Cansa's National Colorectal Cancer Research Consortium)

#### HEAD OF DIVISION: PROFESSOR RAJ S. RAMESAR

The Division is unusual in that it conducts its business through three interacting 'institutions';

an extensive clinical service through the Provincial Government of the Western Cape;its laboratory diagnostic services through the National Health Laboratory Services, and its academic (research and teaching) activities through the University.

The UCT/MRC Human Genetics Research Unit was created while the Human Genome Project was underway. The mandate for this Unit was (i) primarily one of capacity development in the field of Genetics and Genomics, (ii) understanding the relevance of developments in genetics and genomics, as they may be applicable to South Africans, and (iii) the translation of research to the clinical environment.

An emphasis of this Unit is the investment in understanding the rich human diversity on our continent and relating this to disease and health. In this regard there has been a head-on engagement with state of the art high-throughput genetic studies of indigenous southern African population populations, which has resulted in the empowerment and capacity development of South African researchers in large scale data handling and analysis. This and other projects involve fruitful collaborations with other Unit directors, such as Professor Himla Soodyall, and colleagues in bioinformatics in the National Bioinformatics node at UCT.

A further investment has been in taking genetics to the 'clinical' high street. A measure of relevance and success of the Unit in this regard, is its attraction to other mainstream clinical practitioners e.g. from the disciplines of Gastroenterology, Nephrology, Internal Medicine, Psychiatry, Surgery, and Dentistry (UWC) who are completing PhDs in genetics, in this Unit. A substantial effort has been made into introducing genetics/genomics into the undergraduate MBChB curriculum and to specialist groups.

## **Divisional Statistics**

#### **UCT Staff**

Professors	2
Emeritus Professors	1
Senior Lecturers	1
Research Staff	7
Administrative and Secretarial Staff	2
Departmental Assistants	1
Total	14

## **PGWC Personnel**

Senior Specialist (F/T)	2
Registered Nurses	2
Total	4

#### **PGWC/UCT Personnel**

Registrar	2

## **NHLS Personnel**

Discipline Specific Lab manager	1
Medical Technologists	5
Medical Technologist student Intern	2
Genetic counselor (4/8)	2
Total	10

## **Honorary Staff**

Honorary Professors	2
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## **Students**

Postdoctoral	3
PhD	10
Master's	9
Honours	8
Total	30

## RESEARCH FIELDS AND STAFF

## PROFESSOR RAJ S. RAMESAR (UCT/PGWC)

Head of Division and Personal Chair; Director: MRC Human Genetics Research Unit;

Director: Principal Investigator: Genetics of Bipolar Disorder; Genetics of Retinal Degenerative Disorders; Molecular Genetics of Complex Disorders

## PROFESSOR JACQUIE GREENBERG (UCT)

Principal Investigator: Genetics of Neurological Disorders; Genetics of Neuromuscular Disorders; Co-Principal Investigator: Genetics of retinal degenerative disorders

#### **EMERITUS PROFESSOR PETER BEIGHTON**

Principal Investigator: Genetics Connective Tissue Disorders

## HONORARY PROFESSOR: WILMOT JAMES

Director: Africa Genome Education Institute; African Genomics, and Host: The Darwin Seminars

## DR KAREN FIEGGEN (PGWC / UCT)

Senior Specialist; Research Interest/ Co-investigator: X-linked mental retardation

## DR AMBROISE WONKAM (UCT)

Senior Specialist; Research Interest / Phenotypic correlation of sickle cell anemia to genotypic variations

## DR COLLET DANDARA (UCT)

Senior Lecturer; Pharmacogenomics

## MRS THERESA RUPPELT (NHLS)

Laboratory Manager: Cytogenetics

## **CONTACT DETAILS**

Postal Address: Division of Human Genetics, Department of Clinical Laboratory Sciences, Level 3, Werner and Beit North Building; Institute for Infectious Diseases and Molecular Medicine, Faculty of Health Sciences, University of Cape Town, 7925, Observatory

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## DIVISION OF IMMUNOLOGY

## HEAD OF DIVISION: PROFESSOR CLIVE GRAY

The Division of Immunology is involved with a range of activities from identifying the basic mechanisms of immunity in infectious disease to laboratory diagnostic testing in the National Health Laboratory Services at Groote Schuur Hospital. The newly formulated vision statement for the Division of Immunology is "Driving Science to promote World Health" and in 2012 there will be a detailed strategic document to outline a 5-10 year plan of expanded activities. Numerous staff are either Full or Associate members of the Institute of Infectious Disease and Molecular Medicine (IIDMM) and there is a very integrated relationship between the Division of Immunology and the IIDMM.

Basic Research: The Division houses the UCT/MRC Unit on Immunology of Infectious Diseases, an Allergy Section and the SARCHi chair on 'Immunology of infectious diseases in Africa'. The Division has an internationally recognized expertise in generating transgenic mice, for

use in a wide range of immunological studies applicable to communicable and non-communicable diseases. These have been used to make important advances in diseases, such as Tuberculosis, Bilharzia, African Trypanosomiasis, Candidiasis and cutaneous Leishmaniasis and have contributed significantly to identifying fundamental cellular and molecular immunological mechanisms. Together with international and national collaborations, these animal tools contribute to many advances in Immunology and other fields. Basic research in the Allergy Section has focused on the role of IL-4 and IL-13 in allergy as well as the application of novel assays to identify sensitivity profiles. There are very close ties with the South African component of the International Centre for Genetic Engineering and Biotechnology, providing a very strong genomics thrust to the Division.

Translational Research: There is also a strong clinical immunology emphasis in the Division, specifically in HIV and TB immunology where studies are underway to understand adaptive and innate immune responses during acute HIV infection and in infants exposed to HIV in utero and upon receiving different childhood vaccinations. Funding has been garnered that will allow breast-feeding practices of mothers to be linked with the immune activation status of the newborn infant and mechanisms that may potentially mitigate EPI responses. Understanding the link between HIV-induced inflammation and autoimmunity, where peripheral tolerance has been broken, is a new direction within the Division.

Service: The combined functions of the Laboratory for Tissue Immunology (LTI) and the Clinical Immunology and Allergy Laboratory are responsible for providing NHLS activities. The LTI is responsible for HLA class I and class II typing for solid organ and bone marrow/stem cell matching. It is the only HLA lab in South Africa to have European Federation of Immunogenetics (EFI) accreditation. The Laboratory also performs cross-matching and pre-formed antibody testing for renal transplantation. The Clinical Immunology and Allergy Laboratory performs routine diagnostic testing for autoantibodies and different allergies.

Teaching: The Division has an active teaching component in the medical undergraduate syllabus and provides up to date lectures on the basics of the immune system and integrates immunology concepts and principals with the case studies and problem based learning approach by the Faculty. More advanced courses are offered at the post-graduate level through the Honours in Infectious Disease and Immunology programme and the relatively newly formed Immunology Course for postgraduate students. Moreover, members of the Division are involved in the International Research Training Group (IRTG), a student exchange program between the University of Wuerzburg, Germany, Stellenbosch and UCT. The Division also holds workshop on infectious disease and immunology and specifically train students from other countries in Africa

on advanced immunology related techniques and cuttingedge science.

International Links: There are very strong links between staff in the Division with international collaborators on all continents in both basic and applied research.

## **Divisional Statistics**

## Permanent & Long Term Contract Staff (UCT/ NHLS/PGWC)

Professors	4
Associate Professors	2
Lecturers	6
Research Staff	9
Technical Staff	17
Technical Support Staff	5
Administrative Staff	2
Total	45

#### **Students**

Postdoctoral	12
Doctoral	15
Master's	3
Honours	5
Total	35

## **RESEARCH FIELDS & STAFF**

## **Academic Staff**

## PROFESSOR CLIVE GRAY PHD

Wernher Beit Chair and HOD Immunology; Full member of the IIDMM; B rating by NRF; Research Profile: Immunology of HIV infection and specific T cell responses during acute infection.

## PROFESSOR FRANK BROMBACHER, PHD

Professor of Immunology; UCT Fellow; SARChI Chair, Director of an MRC Unit; ICGEB Coordinator & Group leader, Member of IIDMM; A1-rating by NRF; Research profile: Immunology of infectious diseases, including Tuberculosis, African Trypanosomiasis, Leishmaniasis, Bilharzia and other Helminth infections.

## A/PROFESSOR MUAZZAM JACOBS, PHD

NHLS Medical Scientist and UCT Senior Lecturer; Full member of the IIDMM. Research profile: Understanding host pathogen interaction and associated immune mechanisms that bring about protection against tuberculosis infection.

## DR BARBARA NURSE, PHD

NHLS Medical Scientist. Research profile: T cells in allergic diseases: Cytokine responses to allergen and mTB protein in atopic asthmatic children; Immune changes underlying

successful immunotherapy; Investigation of the role of T cells in drug-responsive and extensively drug-resistant (XDR) tuberculosis.

#### DR WILLIAM HORSNELL PHD

UCT Lecturer in Immunology. Associate member of IIDMM. C2 NRF rating. Convener of IDI Honours postgraduate degree. Research profile: Immunity to helminth infections. Maternal and co-infection immunity. Acetylchoine signalling in the immune system.

## DR HEATHER JASPAN MD, PHD, FAAP

Senior Lecturer. Associate member of the IIDMM. Research Profile: Investigating immune activation, T cell immunity and susceptibility to HIV in infants.

#### **PASS** staff

LIZETTE FICK - Technologist
FARIED ABBASS - P3 Assistant
GEORGE JACOBS - Laboratory Assistant
SARAH LOTTERING - Laboratory Assistant
CHADRICK JOHN - Laboratory Assistant
RUBEN MQAMBELI - Laboratory Assistant
WENDY DRYDING - Technical Assistant
DHURAIYAH ABDULLATIEF - Administrator
GLORIA MCKINNON - Administrator

## **NHLS Staff**

## DEREK TALJAARD - LABORATORY MANAGER, TISSUE IMMUNOLOGY

SHIREEN MAART - Senior Technologist BEGHUM PILLAY - Senior Technologist JAMES BANKS -Senior Technologist

GITA SHIBA - Technologist JONAS KOLIKILE -Technologist

**TERRY SCHLAPHOFF** -Senior Technologist (South African Bone Marrow Registry)

**VERONICA BORRILL -** Senior Technologist (South African Bone Marrow Registry)

**DR MARCIA WATKINS -** Laboratory Manager, Clinical Immunology and Allergy

**ERNA KOTZE - Technologist** 

## **Honorary Staff Members**

## PROF. BERNHARD RYFFEL

Director: Institute Transgenose- CNRS; Research profile: i) Immunology of Infectious diseases: Tuberculosis; HIV/ Aids; Prion protein infection; ii) Allergy; iii) Vaccines

## A/PROFESSOR GORDON BROWN, PHD

Honorary Professor of Immunology; Adjunct Member of IIDMM; 6th Century chair of Immunology, University of Aberdeen; Research Profile: Innate immunity to Candidiasis

and Tuberculosis; C-type lectin recptors in infection and homeostasis; Immunomodulatory effects of Beta-glucans.

#### A/PROF ANDREAS LOPATA

Group Leader: Molecular Immunology; Academic Adviser Biochemistry and Molecular Biology

James Cook University, Australia; Seafood allergies and Occupational Allergies in workers in seafood industry

#### Research Contract Staff

BARTHA FENEMORE – Technologist
RONALD DREYER – FACS Technician
RAYAANA FREDERICKS - Research Assistant
FADWAH BOOLEY - Research Assistant
DR ANITA SCHWEGMANN - Research Scientist (left in 2011)

DR NASIEMA ALLIE - Junior Lecturer

#### **Postdoctoral Fellows**

#### DR RETO GULER

investigate using 4 different pathogens, i.e. Listeria monocytogenes, mycobacteria tuberculosis, mycobacteria bovis BCG, and Leishmania major

#### DR NATALIE NIEUWENHUIZEN

Characterization of Anisakis Allergens

#### DR MARK BARKHUIZEN:

The Role of Interleukin-12 in Pathogenic Trypanasome Infections

## DR ROANNE KEETON

TB Immunology

## DR FRANK KIRSTEIN

Investigation of immune responses in different mouse models of allergic asthma"

## DR MELANIE BRETON-REVAZ

IL-4 Receptor-dependent Lymphocyte responses to Leishmania

### DR NAI-JEN HSU

Understanding TNF-TNFR signaling and its impact on microglia-neuronal cell interaction

## DR TIROYAONE BROMBACHER

Neuro-immunological effects of Nippostrongylus brasiliensis on cognitive function.

## DR ROANNE KEETON

The role of TNFR signalling in pulmonary tuberculosis

DR SASKIA SCMIDT (LEFT IN 2011) DR SUZANA SAVVI (LEFT IN 2011)

#### DR MOHLOPHENI MARAKALALA

Investigation of C-type lectin receptors in immunity to Candidiasis, Tuberculosis and Staphylococcus infections

#### DR JENNIFER CLAIRE HOVING

Asthma and Allergy

## Elective Students - part-time foreign

SAEEDA BOBAT – University of Birmingham
ANITA MASIC – University of Wuerzburg
LIANNA WOOD, Seattle Biomedical Research Institute,
USA

Dikon Institute Japan

## Elective - Local

Horukozu

**LEANIE KLEYNHANS** – University of Stellenbosch **NELITA DU PLESSIS** – University of Stellenbosch

## **Distinguished Visitors**

Cuzuki

Suzuki	Riken Institute-Japan
Roy	Riken Institute-Japan
Ryffel	CNRS France
Barber	Max Planck, Germany
Bachmann	Cytos,Switzerland
Jakubzic	Virginia, USA
Svensson	Karolinska Institute, Sweden
Marsland	ETH Zurich, Switzerland
Brown	Univ Aberdeen, UK
Pomares	Univ Nottingham, UK
Svanes	Univ Bergen, UK
Clark	Univ Southampton, UK
Alexander	Univ Strathclyde, UK
Mcdonald	Univ Edinburgh, UK
Satoskar	Ohio State University, USA
Lawrence	Univ Strathclyde, UK
Sodora	Seattle Biomedical Research Institute, USA
Horton	Seattle Biomedical Research Institute, USA
Wood	Seattle Biomedical Research Institute, USA
Pepper	University Of Pretoria, SA
Ferrari	Duke University, USA
Betts	Univ of Pennsylvania, USA
Ota	MRC Gambia
Draper	Univ Oxford, UK
Roederer	NIH/VRC USA
De Rosa	Univ of Washington, USA
Breton	The Rockefeller University, USA
Koup	NIH/VRC USA
Perfetto	NIH/VRC USA
Moody	Duke University, USA
Rosenthal	McMasters University, Canada
	Ryffel Barber Bachmann Jakubzic Svensson Marsland Brown Pomares  Svanes Clark Alexander Mcdonald Satoskar Lawrence Sodora  Horton  Wood  Pepper Ferrari Betts Ota Draper Roederer De Rosa Breton  Koup Perfetto Moody

Bill	Cameron	University of Ottawa
Johanna	Spaans	University of Ottawa
Stefan	Magez	Vrije University, Belgium

## **CONTACT DETAILS**

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# DIVISION OF MEDICAL BIOCHEMISTRY

#### HEAD OF DIVISION: PROFESSOR PETER MEISSNER

The Division of Medical Biochemistry is a preclinical, basic science division in the UCT Faculty of Health Sciences and is associated, either wholly or partly, with a number of advanced research entities. Some such entities are laboratory research groups contained entirely within Division, while some have certain components or personnel falling within the Division, affiliated to other Institutes or Departmental groupings.

Specifically: The Division incorporates the MRC/UCT Research Group for Receptor Biology (co-directed by A/Prof Arieh Katz and Dr Colleeen Flanagan, ex-UCT now at WITS, and Prof Bob Millar, now a Senior Scholar in our Division); the MRC/UCT Oesophageal Cancer Research Group (directed by Prof Iqbal Parker); members of the Institute of Infectious Disease and Molecular Medicine (IIDMM) at UCT (Profs Sturrock, Blackburn, Meissner, Parker, Katz and Leaner); and the International Centre for Genetic Engineering and Biotechnology (ICGEB) (Prof Iqbal Parker). At the end of 2011, the Structural Biology research Unit (under Prof Sewell) became an accredited URC-recognised entity.

Through 2011 there were 57 research postgraduate students registered for either master's or PhD (44 in 2010), and a further 6 Honours students were based wholly in Medical Biochemistry for the duration of their research projects (April - November) (9 in 2010). The Division graduated 6 PhD and 3 MSc students during the course of 2011 (1 PhD and 2 MSc during 2010). Together with various scientific and academic staff our postgraduate students and 18 postdoctoral fellows (13 in 2010) continued to form the basis of a vibrant and on-going research thrust and culture in the Division, forming the core of our Divisional research strategy - out of which flows a contemporary and effective approach to teaching at both under- and postgraduate levels. During 2011 the Division and its' affiliates published 46 papers in ISI accredited science journals and and 2 chapters in text books.

Research activities of the Division cover seven major areas:

- GnRH receptors, signalling, structure function and as a target for development of therapeutics for treatment of reproductive cancers (Katz & Millar labs);
- Molecular mechanisms of cervical cancer and oesophageal cancer development and progression (Leaner, Hendricks and Parker labs)
- Identification and characterisation of anticancer drugs in natural products (Hendricks lab);
- Angiotensin converting enzyme (ACE) structure activity relationships and development of ACE inhibitors (drug design) for treatment of hypertension, congestive heart failure, myocardial infarction and renal disease (Sturrock lab);
- Application of functional proteomics for diagnostics, drug and vaccine development for infectious disease and cancers (Blackburn lab).
- Diagnostic, structure and function studies in the porphyrias and haem biosynthesis (Meissner lab – currently sited and staffed in the Dept. of Medicine)
- Structural basis for differential regulation of glutamine synthetase in humans and the malaria parasite, structural studies on the nitrilase family of enzymes in the context of cancer, mycothiol synthetic pathway in *Mycobacterium tuberculosis* (Sewell lab- currently located on UCT upper campus)

Research staff members, fellows, postgrad students participated in many local and international conferences during the year. Our Division considers such travel essential and worthwhile in that they give rise to new collaborations and maintenance of established collaborations and lab research visits.

## **Divisional Statistics**

Professors	4
Professor (emeritus) appointed as Senior Scholar	1
Professors on establishment but working in affili-	1
ated Institutions	
Associate Professors	4
Technical Support Staff	4
Departmental Assistants	3
Administrative Staff	2
Total	19

## **Honorary Staff**

Honorary Professor	1
Honorary Associate Professor	1
Honorary Senior Lecturers	2
Honorary Research Associate	1
Total	5

#### Students & Fellows

Postdoctoral fellows	18
Research students:	
Doctoral	35
Master's	22
Honours	6
Undergraduate students	626
Total	707

## RESEARCH FIELDS AND STAFF

#### **Professors**

## J M BLACKBURN, BSC (HONS) DPHIL OXON (SOUTH AFRICAN RESEARCH CHAIR)

Proteomics and genomics for diagnostics, drug and vaccine development for infectious disease and cancers

## P N MEISSNER, BSC(MED)(HONS) PHD CAPE TOWN (FELLOW OF UCT)

Haem biosynthesis, disorders of porphyrin metabolism

## E D STURROCK, BSC (MED)(HONS) PHD CAPE TOWN

Angiotensin converting enzyme (ACE) structure activity relationships and drug design related to ACE inhibitors for treatment of hypertension, congestive heart failure, myocardial infarction and renal disease

## B T SEWELL, MSC WITWATERSRAND, PHD LONDON.

Structural biology related to regulation of glutamine synthetase in humans and the malaria parasite, nitrilases in the context of cancer, mycothiol synthetic pathway in *Mycobacterium tuberculosis*)

## R P MILLAR PHD, FRCPATH (CHEM), FRSE (LIFE FELLOW OF UCT)

Endocrine receptor and molecular biology

## **Professors (working in affiliated Institutes)**

## M I PARKER, BSC(HONS) PHD CAPE TOWN (MASSAF)

(based in the International Centre for Genetic Engineering and Biotechnology – ICGEB, Cape Town); Cellular and molecular biology of cancer; Regulation of gene expression in cancer *Associate Professor:* 

## A A KATZ, MSC PHD REHOVOT

Gonadotropin-Releasing Hormone (GnRH) receptors: function regulation and ligand receptor interactions; role of cyclooxygenases and prostaglandins in cervical cancer and uterine pathologies

#### DENVER HENDRICKS, BSC(HONS) PHD CAPE TOWN

Molecular biology of oesophageal cancer and development of novel chemotherapeutic drugs

### VIRNA LEANER, BSC(HONS) PHD CAPE TOWN

Molecular mechanisms associated with the development and treatment of cervical cancer

## CYNTHIA SIKAKANA, BS WESLEYAN PHD WISCONSIN-MADISON

Medical education, Metabolism of xenobiotics

#### **Honorary Professor**

C. SEOIGHE, PHD DUBLIN

## **Honorary Associate Professor**

LUIZ ZERBINI, MSC PHD SÃO PAULO BRAZIL

#### **Emeritus Associate Professor**

## L R THILO, MSC UNIVERSITY OF PRETORIA DR RER NAT HEIDELBERG

## **Honorary Senior Lecturers**

## HENRY JABBOUR, PHD SYDNEY

G protein – coupled receptors in reproductive biology and HIV

## COLLEEN FLANAGAN, PHD CAPE TOWN

Cyclooxygenases in gynaecological cancers

## **Honorary Research Asssociate**

ARVIND VARSANI, PHD CAPE TOWN.

## Postdoctoral fellows

**ZAC MACDONALD** PAULINE VAN DER WATT ALEXANDER ZAWAIRA ANDREW JM NEL **PUTUMA GQAMANA BRANDY YOUNG** JASON VAN ROOYEN KATE HADLEY YABING WANG NASHIA STELLENBOOM JEAN WATERMEYER **ARON ABERA VICTOR FRANCIS ROSS ANDERSON** CLAIRE NEWTON JACQUELINE BRACHER **ROSS DOUGLAS COLIN ANTHONY** 

## Chief scientific officer

#### SYLVA SCHWAGER, MSC

Proteolytic processing of membrane proteins

## Research Associates and mid-career Fellows

KURT SALES, PHD (KATZ/MILLAR LAB, IIDMM) GEORGIA SCHAEFER (PARKER LAB, ICGEB) CATHERINE KASCHULA (PARKER LAB, ICGEB)

## CONTACT DETAILS

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# DIVISION OF MEDICAL MICROBIOLOGY

HEAD OF DIVISION: PROFESSOR MARK NICOL

## **Divisional Profile**

The Division of Medical Microbiology links a state-ofthe-art diagnostic microbiology service based at Groote Schuur Hospital to an active research programme based at the Health Sciences Campus as well as within the National Health Laboratory Service.

We aim to conduct research that is relevant to the needs of diagnostic microbiology services and focused on important infectious diseases in South Africa. This includes work on the development and assessment of novel diagnostics for tuberculosis as well as on the transmission and molecular epidemiology of drug resistant pathogens within our hospitals. A satellite unit of the National Institute for Communicable Diseases, the Unit for Molecular Epidemiology, is based within the Division. More recently, together with the Department of Paediatrics and Child Health, the Division has developed a programme of research focusing on the evolution of the microbiome in early childhood and the association between the microbiome and respiratory illness in young children.

The Division has been successful in attracting substantial research funding from the Wellcome Trust, EDCTP, National Institutes of Health and Bill and Melinda Gates Foundation in recent years and has a strong and growing research focus. We aim to have impact on policy, as demonstrated by recent major contributions to research leading to changes in World Health Organization recommendations

for diagnosis of tuberculosis and to the national roll out of Xpert MTB/RIF testing in South Africa.

The composition of the Division is complex with staff drawn from the University of Cape Town, Groote Schuur Hospital and Red Cross Children's Hospital and the National Health Laboratory Service (NHLS). This mix of pathologists, scientists and students offers the opportunity for creative, cross-disciplinary research.

## **Divisional Statistics**

## **Permanent and Long-term Contract Staff**

Professors	3
Senior Lecturers	2
Lecturers	3
Clinical Research Officer	2
Research Assistant	1
Senior Research Officer	1
Administrative and Clerical Staff	1
Data Management staff	1
Technical Support Staff	1
Total	15

## **Honorary Staff**

Honorary Lecturers	2

#### **Students**

Postdoctoral	2
Registrars	5
Doctoral	6
Master's	11
Honours	2
Undergraduates: Sem 4 & Sem 5:	389
Total	415

## RESEARCH FIELDS AND STAFF

## **Permanent Staff**

## PROFESSOR MARK P NICOL

Development and evaluating point-of-care tests for tuberculosis; the strain biology of *Mycobacterium tuberculosis*; the origin and evolution of the human microbiome in early childhood and its impact on respiratory illness.

## PROFESSOR GREGORY HUSSEY

Understanding the dynamics of TB infection and disease in adolescents; Epidemiology of TB in infants and young children; Evaluation of new TB vaccines

## PROFESSOR VALERIE MIZRAHI AND DR DIGBY WARNER

Investigate fundamental aspects of the metabolism and physiology of *Mycobacterium tuberculosis* of relevance to tuberculosis drug discovery and drug resistance

#### ASSOCIATE PROFESSOR GAY ELISHA

Genetics of antibiotic resistance and molecular epidemiology of clinically important organisms

### DR STEPHEN OLIVER

Antibiotic resistance patterns and antibiotic usage

## DR ANDREW WHITELAW

TB diagnostics, molecular epidemiology and infection control

#### DR C BAMFORD

Laboratory detection of multi-resistant organisms; molecular epidemiology of hospital acquired infections; rational use of antibiotics and surveillance of antimicrobial resistance; appropriate use of microbiological investigations; microbiological diagnosis of tuberculosis

## DR ELIYA MADIKANE

Mycobacterium tuberculosis drug discovery and development; population genetics of Acinetobacter baumannii and Staphylococcus aureus in Cape Town Hospitals; the nasopharyngeal microbiome in early childhood

## **Registrars, Joint Appointments**

DR CATHRYN SAMUELS DR NICOLETTE RIVERA DR JUSTYNA WOJNO DR GEOFFREY CHIPUNGU DR MISCHKA MOODLEY

## **Honorary Staff**

## A/PROFESSOR DAVID LEWIS

Gonococcal resistance STI surveillance Men's sexual health

### DR JOHN SIMPSON

Laboratory diagnosis of tuberculosis and identification of drug-resistance

## **Postdoctoral Fellows**

## DR WIDAAD ZEMANAY

Evaluation of novel diagnostic methods for tuberculosis in adults children; evaluation of the impact of novel TB diagnostics on patient outcomes

### DR LEMESE AH TOW

Development of novel diagnostic methods for tuberculosis

#### DR MAMADOU KABA

Molecular epidemiology of infectious diseases; the nasopharyngeal and stool microbiome in early childhood

## CONTACT DETAILS

Postal Address: Division of Medical Microbiology, University of Cape Town, Medical School, Anzio Road, Observatory, 7925

Telephone: +27 21 406 6727

## DIVISION OF MEDICAL VIROLOGY

## HEAD OF DIVISION: PROFESSOR CAROLYN WILLIAMSON

## **Divisional Profile**

The Division of Medical Virology contributes to the diagnosis, treatment, prevention and eradication of viral diseases in South Africa through a diagnostic laboratory service together with a dynamic research programme.

Research within the Division focuses on Human Immunodeficiency Virus (HIV) and Human Papallomavirus (HPV) and is largely performed within the Institute of Infectious Diseases and Molecular Medicine. The division has made a major contribution to HIV biomedical prevention efforts through participation in both microbicide and vaccine trials. In 2011, two HIV candidate vaccines developed by the division, SAAVI MVA-C and SAAVI DNA-C2, entered into two expanded Phase I trials where they will be evaluated with an HIV protein boost vaccination. The division hosts one DST/NRF SARChI Chair (Professor Anna-lise Williamon, Vaccinology).

The Virology Diagnostic Laboratory falls within the National Health Laboratory Service, and is located at Groote Schuur Hospital (GSH). It provides a comprehensive service to both GSH and Red Cross Children's Hospital, and serves as a regional reference centre providing a clinical and diagnostic service to local teaching hospitals and surrounding public health clinics. The Diagnostic Laboratory has a special interest in molecular diagnosis of human viral diseases and performs an extensive range of 'in-house' and commercial molecular assays. The Division hosts the National Institute for Communicable Diseases (NICD) Molecular Epidemiology Satellite Unit.

The division contributes to undergraduate teaching and plays a major role in post-graduate training and currently hosts 41 post-graduate students (registered for MMed, MSc, PhD and Post-Doctoral degrees).

## Special awards / honours / promotions

- Wendy Burgers was awarded the Wellcome Trust Intermediate Fellowship in Public Health and Tropical Medicine
- Denis Chopera awarded a Canadian Institutes of Health Research (CIHR) Fellowship
- Andile Nofemela was awarded the Fogarty- AIDS International Training and Research Program Fogarty Scholarship
- Clinical Infectious Diseases Research Initiative (CIDRI) fellowships was awarded to: Alfred Bere, Nonhlanhla Mhkize, Zizipho Mbulawa, Olivia Carulei, Cobus Olivier and Nobubelo Ngandu;
- Carnegie fellowships were awarded to Andreia Soares, Lindi Roberts, Marcel Tongo, Shameem Jaumdally, Gama Bandawe and Shivan Chetty.
- Agano Kiravu won Discovery Health Community Award for best presentation at 5th SA AIDS Conference, Durban; June 9-12, 2011

## **Distinguished visitors**

Dr Helen Horton and Dr Don Sodera from the Seattle Biomedical Research Institute (BMRI)

## **Divisional Statistics**

## **Permanent and Long-term Contract Staff**

Professors	2
Academic	15
Research and Technical Support Staff	19
Administrative and Clerical Staff	3
Total	39

#### **Honorary Staff**

Honorary Senior Lecturer 1	
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## **Students**

MMed	3
Postdoctoral	9
Doctoral	14
Master's	14
Honours	5
Undergraduate (semesters 3-5)	401

## RESEARCH STAFF AND FIELDS

EMERITUS PROFESSOR PROFESSOR KEITH DUMBELL

#### **Academic Staff**

## PROFESSOR CAROLYN WILLIAMSON (UCT/NHLS)

HIV diversity and pathogenesis; HIV-1 vaccine development - Head of Division

## PROFESSOR ANNA-LISE WILLIAMSON (NHLS/UCT)

Human Papillomavirus; HIV-1 vaccine development

## DR DIANA HARDIE (NHLS/UCT)

Molecular biology of Hepatitis B Virus - Head Diagnostic Virology Laboratory

## DR WENDY BURGERS

HIV Immunology and Pathogenesis

#### DR ROS CHAPMAN

**HIV Vaccines** 

## DR GERALD CHEGE

**HIV Vaccines** 

#### DR NICOLA DOUGLASS

HIV Vaccines / poxviruses

## DR MARVIN HSIAO (NHLS/UCT)

Clinical Virology, cytomegalovirus and molecular diagnostics

## DR. STEPHEN KORSMAN (NHLS/UCT)

Clinical Virology, Hepatitis B, molecular diagnostics and

## DR JO-ANN PASSMORE (NHLS/UCT)

HIV/HPV Immunology

## DR HEIDI SMUTS (NHLS/UCT)

Hepatitis C; Novel respiratory viruses

## DR ZIYAAD VALLEY-OMAR (NHLS/UCT)

Molecular Epidemiology

## **Honorary Staff**

## DR TIM TUCKER

Senior Lecturer; HIV

#### **Research Staff**

## **MELISSA-ROSE ABRAHAMS**

HIV Diversity and Pathogenesis

## **CRAIG ADAMS**

**HIV Vaccines** 

## **BRUCE ALLAN**

Human papillomavirus

#### **DESIREE BOWERS**

**HIV Vaccines** 

## KATRINA DOWNING

HIV Vaccines/ Project manager/GLP

#### SHIREEN GALANT

**HIV Vaccines** 

#### **HOYAM GAMIELDIEN**

**HIV** Immunology

## **SARAH GOODIER**

HIV Diversity and Pathogenesis

#### **ETIENNE HURTER**

HIV Vaccines/GLP

#### **MURRAY LOGAN**

HIV Diversity and Pathogenesis

## JINNY MARAIS

HIV Diversity and Pathogenesis

#### TRACEY MULLER

HIVImmunology and Pathogenesis

## **CECILIA RADEMEYER**

HIV Diversity and Pathogenesis

## **DEBBIE STEWART**

HIV Diversity and Pathogenesis/Project co-ordinator and GLP archivist

## **RUWAYHIDA THEBUS**

HIV Diversity and Pathogenesis

## NONKULULEKO NDABAMBI

HIV Diversity and Pathogenesis

## DANIEL SHEWARD

HIV Diversity and Pathogenesis

## **Postdoctoral Fellows**

## DR DENIS CHOPERA

HIV Diversity and Pathogenesis

## DR TRACY MEIRING Human Papillomavirus

## ZIZIPHO MBULAWA

Human Papillomavirus

## LINDI ROBERTS

HIV Immunology

#### **COBUS OLIVIER**

HIV Immunology

#### ANDREIA SOARES

HIV Immunology and Pathogenesis

## **ZEKARIAH GINBOL**

HIV Immunology and Pathogenesis

#### **NOBUBELO NGANDU**

HIV Diversity and Pathogenesis

#### **Administrative Staff**

## **REZAHNA BATCHELOR**

Secretary

## NYAMEKA MHLONYELWA-MONA

PA to Head of Division and Divisional Secretary

#### KATHRYN NORMAN

Project Administrator

## **CONTACT DETAILS**

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## RESEARCH OUTPUT

## **Edited books**

Smythe, D.L., Pithey, B. and Artz, L.M. (eds) 2011. Sexual Offences Commentary: Act 32 of 2007. 344pp. 2011. Claremont, Cape Town: Juta & Co. Ltd. ISBN 978-07021-8602-8.

## Chapters in books

Blackburn, J. and Shoko, A. 2011. Proteion Function microarrays for customised systems-oriented proteome analysis. In U. Korf (ed.), Proetin Microarrays. USA: Humana Press Inc. ISBN 978-1-61779-285-4.

Moodley, K., Greenberg, J. and Van Niekerk, A. 2011. Genetics and ethical complexity. In K. Moodley (ed.), Medical Ethics, Law and Human Rights: A South African Perspective, pp. 291-316. Pretoria: Van Schaik Publishers. ISBN 978 0 627 02809 0.

Mulder, N.J. 2011. Protein Domain Architectures. Methods in Molecular Biology. In O. Carugo and F. Eisenhaber (eds), Data Mining Techniques for the Life Sciences. USA: Humana Press Inc. ISBN 978-1-60327-240-7.

Vuppu, V. and Mulder, N.J. 2011. Analysis of duplicate gene families in microbial genomes and application to the study of gene duplication in M. tuberculosis. In F. Friedberg (ed.), Gene Duplication, pp. 173-196. Croatia: Intech. ISBN 978-953-307-387-3.

## **Articles in Peer-reviewed Journals**

Abrahams, N., Jewkes, R., Martin, L.J. and Mathews, S. 2011. Forensic Medicine in South Africa: Associations between Medical Practice and Legal Case Progression and Outcomes in Female Murders. PLoS One, 6(12): e28620. (5pp).

Akif, M., Schwager, S.L.U., Anthony, C., Czarny, B., Beauf, F., Dive, V., Sturrock, E.D. and Acharya, K.R. 2011. Novel mechanism of inhibition of human angiotensin-I-converting enzyme (ACE) by a highly specific phosphinic tripeptide. Biochemical Journal, 436: 53-59.

Akif, M., Masuyer, G., Schwager, S.L.U., Bhuyan, B.J., Mugesh, G., Elwyn Isaac, R., Sturrock, E.D. and Acharya, K.R. 2011. Structural characterization of angiotensin I-converting enzyme in complex with a selenium analogue of captopril. FEBS Journal, 278: 3644-3650.

Albertyn, C., van Der Plas, H., Hardie, D.R., Candy, S., Tomoka, T., Lee Pan, E.B. and Heckmann, J.M. 2011. Silent casualties from the measles outbreak in South Africa. SAMJ South African Medical Journal, 101(5): 313-317.

Antunes, E., Afolayan, A.F., Chiwakata, M.T., Fakee, J., Knott, M., Whibley, C.E., Hendricks, D.T., Bolton, J.J. and Beukes, D. 2011. Identification and *in vitro* anti-esophageal cancer activity of a series of halogenated monoterpenes isoated from the South African seaweeds *Plocamium suhrii* and *Plocamium cornutum*. Phytochemistry, 72: 769-772.

Artz, L.M. 2011. Fear or failure? Why victims of domestic violence retract from the criminal justice process. South African Crime Quarterly, 37: 3-10.

Auvert, B., Marais, D.J., Lissouba, P., Zarca, K., Ramjee, G. and Williamson, A.-.L. 2011. High-Risk Human Papillomavirus is Associated with HIV Acquisition among South African Female Sex Workers. International Journal of Infectious Diseases, Volume 2011: 1-10.

Bertie, J.D., Thompson, D. and Beighton, P. 2011. Cleidocranial dysplasia presenting as familial coxa vara in a South African family. SA Orthopaedic Journal, 10(2): 34-38.

Besnard, A.-.G., Sabat, R., Dumoutier, L. and Fick, L. 2011. Dual Role of IL-22 in Allergic Airway Inflammation and its Cross-talk with IL-17A. American Journal of Respiratory and Critical Care Medicine, 183: 1153-1163.

Bhaijee, F., Krige, J.E.J., Locketz, M.L. and Kew, M.C. 2011. Liver resection for non-cirrhotic hepatocellular carcinoma in South African patients. South African Journal of Surgery, 49(2): 68-74.

Blakemore, R., Nabeta, P., Davidow, A., Vadwai, V., Tahirli, R., Munsamy, V., Nicol, M.P., Jones, M., Persing, D.H., Hillemann, D., Ruesch-Gerdes, S., Leisegang, F., Zamudio, C., Rodrigues, C., Boehme, C., Perkins, M.D. and Alland, D. 2011. A Multisite Assessment of the Quantitative Capabilities of the Xpert MTB/RIF Assay. American Journal of Respiratory and Critical Care Medicine, 184: 1076-1084.

Boehme, C., Nicol, M.P., Nabeta, P., Michael, J.s., Gotuzzo, E., Tahirli, R., Gler, M.T., Blakemore, R., Worodria, W., Gray, C., Huang, L., Caceres, T., Mehdiyev, R., Raymond, L., Whitelaw, A.C., Sagadevan, K., Alexander, H., Albert, H., Cobelens, F., Cox, H., Alland, D. and Perkins, M.D. 2011. Feasibility, diagnostic accuracy, and effectiveness of decentralised use of the Xpert MTB/RIF test for diagnosis of tuberculsis and multidrug resistance: a multicentre implementation study. Lancet, 377: 1495-1505.

Boutall, A.H., Urban, M. and Stewart, C. 2011. Diagnosis, etiology and outcome of fetal ascites in a South African hospital. International Journal of Gynecology & Obstetrics, 115: 148-152.

Boyles, T.H., Wilkinson, L.S., Leisegang, R. and Maartens, G. 2011. Factors Influencing Retention in Care after Starting Antiretroviral Therapy in a Rural South African Programme. PLoS One, 6(5): (e19201). 7pp.

Boyles, T.H. and Cohen, K. 2011. The prevalence of hepatitis B infection in a rural South African HIV clinic. SAMJ South African Medical Journal, 101(7): 470-471.

Bryson, K.J., Mokgethi, T., Millington, O.R., McGachy, H.A., Brombacher, F. and Alexander, J. 2011. BALB/c Mice Deficient in CD4 + T Cell IL-4Ra Expression Control Leishmania mexicana Load although Female but Not Male Mice Develope a Healer Phenotype. PLoS Neglected Tropical Diseases, 5(1): e930.

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Bye, H., Prescott, N.J., Matejcic, M., Rose, E., Lewis, C.M., Parker, M.I. and Mathew, C.G. 2011. Population-specific genetic associations with oesophageal squamous cell carcinoma in South Africa. Carcinogenesis, 32(12): 1855-1861.

Chan, K.Y., Gumbart, J., McGreevy, R., Watermeyer, J., Sewell, B.T. and Schulten, K. 2011. Symmetry-Restrained Flexible Fitting for Symmetric EM Maps. Structure, 19: 1211-1218.

Chatterjee, K., Williamson, A.-.L., Hoffman, M. and Dandara, C. 2011. CASP8 Promoter Polymorphism is Associated With High-Risk HPV Types and Abnormal Cytology but not With Cervical Cancer. Journal of Medical Virology, 83: 630-636.

Checkley, A.M., Wyllie, D.H., Scriba, T.J., Golubchik, T., Hill, A.V.S., Hanekom, W.A. and McShane, H. 2011. Identification of Antigens Specific to Non-Tuberculous Mycobacteria: The Mce Family of Proteins as a Target of T Cell Immune Responses. PLoS One, 6(10): e26434. (10pp).

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Chopera, D., Mlotshwa, M., Woodman, Z., Mlisana, K., de Assis Rosa, D., Martin, D.P., Abdool Karim, Q., Gray, C.M., Williamson, C. and caprisa 002 study team, c. 2011. Virological and Immunological Factors Associated with HIV-1 differential disease progression in HLA-B\* 58:01-Positive individuals. Journal of Virology, 85(14): 7070-7080.

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Dambuza, I., Keeton, R., Allie, N., Hsu, N., Randall, P., Sebesho, B., Fick, L., Quesniaux, V. and Jacobs, M. 2011. Reactivation of M.tuberculosis Infection in Trans-Membrane Tumour Necrosis Factor Mice. PLoS One, 6(11): e25121. (10pp)

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Day, C., Abrahams, D.A., Lerumo, L., Janse van Rensburg, E., Stone, L., O'rie, T., Pienaar, B., de Kock, M., Kaplan, G., Mahomed, H., Dheda, K. and Hanekom, W.A. 2011. Functional Capacity of Mycobacterium tuberculosis-Specific T Cell Responses in Humans Is Associated with Mycobacterial Load. Journal of Immunology, 187: 2222-2232.

Deveault, C., Billingsley, G., Duncan, J.L., Bin, J., Theal, R., Vincent, A., Fieggen, K., Gerth, C., Noordeh, N., Traboulsi, E.I., Fishman, G.A., Chitayat, D., Knueppel, T., Millan, J.M., Munier, F.L., Kennedy, D., Jacobson, S.G., Innes, A.M., Mitchell, G.A., Boycott, K. and Heon, E. 2011. BBS Genotype-Phenotype Assessment of a Multiethnic Patient Cohort Calls for a Revision of the Disease Definition. Human Mutation, 32(6): 610-619.

Domingo, R., Chibale, K. and Sturrock, E.D. 2011. The significance of the C substituent in the selective inhibition of matrix metalloproteinases 1 and 9. Biological Chemistry, 392: 1003-1010.

Donald, K., Mathema, H., Thomas, K. and Wilmshurst, J. 2011. Intellectual and Behavioral Functioning in a South African Cohort of Boys with Duchenne Muscular Dystrophy. Journal of Child Neurology, 26(8): 963-969.

Dong, Q., Zhang, J., Li, Q., Bracher, J., Hendricks, D.T. and Zhao, X. 2011. Clinical significance of serum expression of GRO in esophageal squamous cell carcinoma. World Journal of Gastroenterology, 17(21): 2658-2662.

Dong, Q., Zhang, J., Hendricks, D.T. and Zhao, X. 2011. GRO and its downstream effector EGR1 regulate cisplatin-induced apoptosis in WHCO1 cells. Oncology Reports, 25: 1031-1037.

Douglas, R., Ehlers, M.R.W. and Sturrock, E.D. 2011. Vasopeptidase Inbibition - Solving the Cardiovascular Puzzle. Drugs of the Future, 36(1): 33-43.

Dunn, R.N. and Pretorius, C. 2011. Cervical PEEK cage standalalone fusion-the issue of subsidence. SA Orthopaedic Journal, 10(1): 25-29.

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Chege, G., Burgers, W., Meyers, A.E., Stutz, H., Kiravu, A., Bunjun, R., Chapman, R.E., Shephard, E.G., Rybicki, E.P. and Williamson, A.-.L. 2011. A Prime-Boost Immunization with an Auxotrophic BCG Expressing HIV-1Gag and Gag VLPs Induces Broad, Polyfunctional Memory T Cell Responses in Baboons. In Proceedings of AIDS Vaccine 2011, 12-15 September 2011, Bangkok, Thailand. USA: Mary Ann Liebert Inc. ISSN 0889-2229.

# DEPARTMENT OF HEALTH AND REHABILITATION SCIENCES

The Department of Health and Rehabilitation Sciences is a multi-professional Department, and offers undergraduate and postgraduate programmes in Audiology, Speech and Language Pathology, Occupational Therapy, and Physiotherapy. The Department also offers Postgraduate Diplomas, Master's and PhD programmes in Disability Studies and Nursing.

2011 was a productive year with regard to research activities and graduation of postgraduate candidates. Professor Jelsma's NRF rating was upgraded to a C2 rating. Four staff members were promoted to Associate Professor (Roshaan Galvaan, Pat Mayers, and Elewani Ramugondo) and Senior Lecturer (Gillian Ferguson) respectively. Professor Steve Ersser was appointed as an Honorary Professor to the Division of Nursing to develop collaborative research in dermatology nursing. Naeema Abrahams was appointed as an Honorary Associate Professor to the Division of Nursing for teaching clinical research methods. Two staff members obtained their PhD's (Helen Buchanan and Una Kyriacos). In addition, in 2011 the Department achieved the best throughput rate of postgraduate candidates to date, with four PhD and 17 master's Graduates. The Department was awarded its first postdoctoral scholarship in Disability. Judy McKenzie is conducting research in the domain of intellectual disability. In 2011, the Department also adopted a five-year strategy to accelerate the throughput of staff doing PhDs. Currently 53% of staff have PhDs, and the Department is targeting 75% of staff with PhDs by 2015. This programme has been supported by the Emerging Researcher Programme and the Research Office.

Researcher received funding for numerous research activities. Harsha Kathard completed the final phase of the NRF Thuthuka funded project on Enhancing Communication in Classrooms project. Eve Duncan continued to lead the SANPAD research team investigating disabled persons access to service delivery in Mpoza in the Eastern Cape. A Disability Research Dissemination Symposium was held at the UCT Faculty of Health Sciences in November 2011 to identify strategies that would close the gap between policy, service delivery and curriculum for disability inclusive development.

Theresa Lorenzo received funding from the NRF Community Engagement Strategy Fund for the Disabled Youth Enabling Sustainable Livelihoods (DYESL) study, which investigates the strategies of disabled youth in sustaining their livelihoods. The Division of Disability Studies collaborated with Occupational Therapy departments of five universities in South Africa for this study. She also received funding from the URC Programme for Enhanced Research Capacity for a

study that explores the capacity of community disability workers to address the needs of disabled youth. This study is being conducted in rural areas of Botswana, Malawi and Mpumalanga, South Africa. Judith Mckenzie was awarded funding from the Vera Grover Trust for a study investigating housing and support options for people with intellectual disability.

Sheila Clow, Una Kyriacos and Nicki Fouché received Carnegie funding to assist with the completion of their PhD research. Sinegugu Duma received funding from the NRF and MRC for conference attendance in South Korea. Nicola Keeton was awarded an IAPO student exchange scholarship to study at Emory in Atlanta. Seyidele Amosun, Theresa Burgess, Gillian Ferguson, Jennifer Jelsma, Shamila Manie, Lionel Naidoo and Niri Naidoo received funding from the URC to attend the World Confederation of Physical Therapists Congress in Amsterdam.

Based on her contribution to the Human Research Ethics Committee (HREC) of the Faculty of Health Sciences, Theresa Burgess was offered a scholarship from the Fogarty International Centre of the NIH to undertake a Master's degree in Bioethics at the University of Toronto.

She has also been appointed as a Deputy Chair of the HREC, a position she will take up on her return. Romy Parker was awarded a Thutuka Grant in 2011. Shamila Manie was awarded a grant from the University Equipment Committee to enable her to continue with her PhD research.

Soraya Maart was awarded a contract for disability epidemiology research, as part of a collaborative agreement between Department of Health, UWC and UCT. This research will be used in her PhD and will also inform policy development for community based services. Soraya Maart was also awarded the Crossly Clinical Research Fellowship. Heather Talberg won the prize for the best presentation at the Faculty of Health Sciences Education Research Day. The undergraduate physiotherapy student research was also recognised in that the two UCT groups presenting at the Regional Inter-varsity Physiotherapy Research Forum, won first and second prize for their presentations.

Theresa Lorenzo was awarded funding from the Vice Chancellor's Strategic Fund to investigate disability inclusion in the curriculum of faculties at UCT. Jennifer Jelsma was awarded a travel grant from the Vice Chancellor's Strategic Fund to be used for developing teaching and learning at Kigali Institute in Rwanda. Elewani Ramugondo was awarded funding from the Vice Chancellor's Strategic Fund for Internalisation with an Afropolitan Niche to establish occupational therapy training in African countries, including Lesotho, Malawi, Namibia and Botswana.

The Department raised its international research profile in 2011. Eight staff member from the Division of Physiotherapy presented at the World Confederation of Physical Therapy Congress held in Amsterdam, and further work was presented at the World Pain Congress, and at the World Disability Report launch in Sydney. Members of the Division were active on the local organising committee of the annual meeting of the World Health Organisation Family of International Classifications, which was successfully hosted in Cape Town in November. Jennifer Jelsma continues to serve as a member of the WHO Functioning and Disability Group and as a member of the EuroQoL Quality of Life Group. Romy Parker is the secretary of the International Pain and Movement Special Interest Group and was on the Scientific Committee of the 4th Pan African Pain Congress.

Harsha Kathard presented papers at the American Speech-Language Hearing Association Conference in San Diego, and the Fluency Conference, Oxford. Associate Professor Sheila Clow was the chairperson of the Scientific and Professional programme committee for the 29th Triennial congress of the International Confederation of Midwives. Vivienne Norman was an invited speaker at the National ENT/SAAA/ SASLHA Conference. Dr Judith McKenzie presented papers at the International Association for the Study of Sexuality in Culture and Society in Madrid, and Q Methodology in Birmingham). She was also a keynote speaker at the Network of African National Human Rights Institutions in Cape Town, and at the AfriNEAD Conference in Zimbabwe.

There were numerous collaborative research activities and scholarly visits in 2011. Sinegugu Duma was involved in a collaborative research project between UCT, UKZN, North West University (Mafikeng Campus) on the health sector's response to gender-based violence. Doris Khalil conducted a study on violence in nursing at the Kwame Nkrumah University of Science & Technology. Una Kyriacos was the Western Cape coordinator for a nation-wide RN4Cast research project under the leadership of Professor Hester Klopper, University of Johannesburg. Pat Mayers continues to be involved in the UCT Knowledge Translation Unit on-going Practical Approach to Lung Health and HIV project. Douglas Newman-Valentine was involved in the PEPFAR funded national mother to-child prevention of HIV project in collaboration with UWC.

Lebogang Ramma received funding from the Worldwide Universities Network Academic Mobility Visit to attend the University of Western Australia. He also attended training on public health planning for hearing impairment at the London School of Hygiene & Tropical Medicine at the University of London. Tracey-Lee Cloete visited the University of Queensland to meet with a research consultant in the area of school-based hearing screening. Christine Rogers visited Professor Herdman at the Centre for Rehabilitative Medicine, Atlanta to work on her PhD proposal.

The Department continues to contribute to the development of the professions. Sinegugu Duma is Chair of the Accreditation Committee of the South African Nursing Council. Shajila Singh is the Chair of the Professional Board for Speech, Language and Hearing Professions. Michelle Pascoe is Chief Editor of the South African Journal of Communication Disorders. Harsha Kathard, Vivienne Norman (co-Editor), and Lucretia Petersen are on the Editorial Board for the South African Journal of Communication Disorders. Harsha Kathard is on the Editorial Board for the South African Medical Journal. Michelle Pascoe also serves on the Editorial Board for Child Language Teaching and Therapy. Nicki Fouche remains as the Editor for Nursing Science for The Southern African Journal of Critical Care. Seyidele Amosun and Jennifer Jelsma are on the Editorial Board of the South African Journal of Physiotherapy, and Theresa Burgess is on the Editorial Board for the South African Journal of Sports Medicine.

## **DEPARTMENTAL STATISTICS**

## Staff

Professor	2
Associate Professor	10
Senior Lecturer & Lecturer	20
Part-time Lecturer	4
Clinical Educator	24
Technical and Support Staff	1
Administrative and Clerical Staff	12
Total	73

## **Students**

Doctoral	16
Master's	82
Postgraduate Diplomas	67
Undergraduate	583
Total	748

## RESEARCH STAFF AND INTERESTS

## PROFESSOR S.L. AMOSUN

Non-communicable diseases; disability prevention and health promotion

## MS HELEN BUCHANAN

Evidenced based practice

## DR THERESA BURGESS

Muscle damage and endurance exercise; clinical sports physiotherapy; bioethics

#### MS LIZAHN CLOETE

Occupation of mothers of children with Foetal Alcohol Syndrome

## ASSOCIATE PROFESSOR SHEILA CLOW

Midwifery; women's health care; intrapartum care; mentorship

## ASSOCIATE PROFESSOR SINEGUGU DUMA

Interplay between HIV and gender-based violence; sexual assault; and curriculum development.

## ASSOCIATE PROFESSOR EVE DUNCAN

Chronic poverty; psychiatric disability and human occupation; professional education

#### MS GILLIAN FERGUSON

HIV; paediatric motor assessment and rehabilitation

#### MS NICKI FOUCHE

Lived experiences in the care of patients in the Intensive Care Units

## ASSOCIATE PROFESSOR ROSHAN GALVAAN

Determinants of occupation in youth

#### DR MICHEAL HARTY

Augmentative and Alternative Communication (AAC) and family-centred intervention practices

## MS CANDICE HENDRICKS

Rehabilitation of sports-related orthopaedic and neuromusculoskeletal conditions

## PROFESSOR JENNIFER JELSMA

Function in children with HIV/AIDS; health related quality of life; living conditions of people with disabilities; use of the ICF

## ASSOCIATE PROFESSOR HARSHA KATHARD

Communication impairment; disability and service delivery

## ASSOCIATE PROFESSOR DORIS KHALIL

Violence in nursing; community based management of HIV/AIDS and TB

#### DR UNA KYRIACOS

Role of biosciences in clinical nursing education; ophthalmic nursing; preparation of nurse educators

## ASSOCIATE PROFESSOR THERESA LORENZO

Disability rights and equity for youth and women; community based rehabilitation

## MS SORAYA MAART

Incontinence and sexual dysfunction amongst sexually abused persons; HIV and community empowerment

#### MS SHAMILA MANIE

Intensive Care Unit management; cardio-pulmonary rehabilitation, TB

#### ASSOCIATE PROFESSOR PAT MAYERS

Mental health; support and training for primary health care providers/clinical nurse practitioners with special to HIV and ARV rollout; primary care practice teams

#### MR DOUGLAS NEWMAN

LGBTI health

## MS VIVIENNE NORMAN

Paediatric dysphagia and early intervention

#### DR MICHELLE PASCOE

Speech, language and literacy difficulties in school-aged children

#### MS LUCRETIA PETERSEN

Ototoxicity; otoacoustic emissions

## MS ROMY PARKER

Pain in HIV

#### DR LEBOGANG RAMMA

Noise and public health

## ASSOCIATE PROFESSOR ELELWANI RAMUGONDO

Indigenous play

## MS CHRISTINE ROGERS

Vestibular assessment and management Associate Professor Shajila Singh Dysphagia; motor speech disorders; ethics; HIV/AIDS

## MS AMSHUDA SONDAY

Children with neurological damage

## **Clinical Educator Staff**

#### MRS FATEMAH CAMROODIEN-SURVE

Early childhood intervention; parent training

### MRS NAILA EDRIES

Occupational health and wellness; promoting behaviour change; musculoskeletal injury management; evaluation and feedback methods to drive learning

### MRS MADRI ENGELBRECHT

Disability and employment

## MRS FADIA GAMIELDIEN

Health professionals' attitudes towards mental health service users; disability, diversity and social change

#### MRS FAHMIDA HARRIS

The impact of physical activity on quality of life of persons with mental illness

## MS JANE LE ROUX

Evaluating the effectiveness of The Shine Program for literacy development in grade 2 and 3 learners

#### MR MARC NAIDOO

Clinical education models and strategies; rehabilitation in neuro patients; soccer injury prevention at school level

## MRS ELRIETHA OLIVIER

Cochlear implants; bimodal fitting and FM use; balance disorders in cochlear implant recipients

#### MRS LAURA RUSSELL

Traumatic brain injury care pathways after discharge; assessment of aphasia in South African languages

### MRS CELESTE SAMUELS

Right hemisphere communication disorders intervention and referral pathways; cerebral palsy and communication

## MRS DES SCOTT

Group teaching in clinical practice; paediatric clinical practice

## MRS HEATHER TALBERG

Clinical education best practice models and guidelines; developing professional and reflective practitioners

## MS FREDA WALTERS

Fluency, community based rehabilitation; clinical education

## **CONTACT DETAILS**

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Web: http://www.health.uct.ac.za/departments/shrs/about/

## RESEARCH OUTPUT

## **Authored books**

Kalula, S.Z., Khalil, D., Perold, A.P., Ross, K., De Villiers, L. and Van Niekerk, S.N. 2011. Nursing Care for the Older Person A Practical Approach. Cape Town, South Africa: Pearson Education Limited. 285pp. ISBN 9780796224828.

## Chapters in books

De Jongh, J.J., Firfirey, F.F., hess-april, L.A., Ramugondo, E., smit, N.S. and Van Niekerk, L. 2011. Nature of political reasoning as a foundation for engagement. In F. Kronenberg, N. Pollard and D. Sakellariou (eds), Occupational Therapies Without borders: Towards an Ecology of Occupation-Based Practices, pp. 313-319. 2nd edition. China: Churchill Livingstone Elsevier. ISBN 9780702031038.

Duncan, E.M., Watson, R.W. and Sherry, K. 2011. Disability and rurality. In T. Lorenzo (ed.), Intentions, Pillars and Players, pp. 29-36. University of Cape Town: Disability Innovations Africa. ISBN 978-0-9870203-0-7.

Galvaan, R. 2011. Domestic workers' narratives: transforming occupational therapy practice. In F. Kronenberg, N. Pollard and D. Sakellariou (eds), Occupational Therapies Without borders: Towards an Ecology of Occupation-Based Practices, pp. 349-355. 2nd edition. China: Churchill Livingstone Elsevier. ISBN 9780702031038.

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Kronenberg, F., Pollard, N. and Ramugondo, E. 2011. Introduction: courage to dance politics. In F. Kronenberg, N. Pollard and D. Sakellariou (eds), Occupational Therapies Without borders: Towards an Ecology of Occupation-Based Practices, pp. 1-16. 2<sup>nd</sup> edition. China: Churchill Livingstone Elsevier. ISBN 9780702031038.

Kronenberg, F. and Ramugondo, E. 2011. Ubuntourism: engaging divided people in post-apartheid South Africa. In F. Kronenberg, N. Pollard and D. Sakellariou (eds), Occupational Therapies Without borders: Towards an Ecology of Occupation-Based Practices, pp. 195-207. 2<sup>nd</sup> edition. China: Churchill Livingstone Elsevier. ISBN 9780702031038.

Lorenzo, T. 2011. Introduction. In T. Lorenzo (ed.), Intentions, Pillars and Players, pp. 1-4. University of Cape Town: Disability Innovations Africa. ISBN 978-0-9870203-0-7.

McKenzie, J. 2011. Disability activism and participation. In T. Lorenzo (ed.), Intentions, Pillars and Players, pp. 13-21. University of Cape Town: Disability Innovations Africa. ISBN 978-0-9870203-0-7.

Pillay, M. 2011. (Re) habilitation and (re) positioning the powerful expert and the sick person. In F. Kronenberg, N. Pollard and D. Sakellariou (eds), Occupational Therapies Without borders: Towards an Ecology of Occupation-Based Practices, pp. 123-132. 2nd edition. China: Churchill Livingstone Elsevier. ISBN 9780702031038.

Ramugondo, E. and Barry, A.B. 2011. Enabling play in the context of rapid social change. In F. Kronenberg, N. Pollard and D. Sakellariou (eds), Occupational Therapies Without borders: Towards an Ecology of Occupation-Based Practices, pp. 179-184. 2<sup>nd</sup> edition. China: Churchill Livingstone Elsevier. ISBN 9780702031038.

Rule, S.R. 2011. Disability inclusion: a possible mission? In T. Lorenzo (ed.), Intentions, Pillars and Players, pp. 8-12. University of Cape Town: Disability Innovations Africa. ISBN 978-0-9870203-0-7.

## **Articles in Peer-reviewed Journals**

Adefuye, A.A., Abiona, T.A., Balogun, J.B., Amosun, S.L., Frantz, J. and Yakut, Y.Y. 2011. Perceptions of HIV and sexual risk behaviours among students in the United States, Turkey and South Africa. Sahara J-Journal of Social Aspects of HIV-AIDS, 8(1): 19-26.

Balogun, J.B., Abiona, T.A., Lukobo-Durrell, M., Adefuye, A.A., Amosun, S.L., Frantz, J. and Yakut, Y.Y. 2011. Readability and test-retest reliability of a psychometric instrument designed to assess HIV/AIDS attitudes, beliefs, behaviours and sources of HIV prevention information of young adults. Health Education Journal, 70(2): 141-159.

Burgess, T. 2011. Ethical issues in return-to-sport decisions. South African Journal of Sport Medicine, 23(4): 138-139.

Duma, S.E. 2011. Legitimate agents of knowledge, who are they? (Editorial). Curationis, 33(3): 3-4.

Duncan, E.M., Swartz, L. and Kathard, H. 2011. The burden of psychiatric disability on chronically poor households: Part 1 (costs). South African Journal of Occupational Therapy, 41(3): 55-63.

Duncan, E.M., Swartz, L. and Kathard, H. 2011. The burden of psychiatric disability on chronically poort households: Part 2 (coping). South African Journal of Occupational Therapy, 41(3): 64-70.

Frantz, J., Diener, I.D. and Jelsma, J.M. 2011. Does the South African Physiotherapy Journal fulfill the needs of its constituency? A retrospective article review. South African Journal of Physiotherapy, 67(3): 4-8.

Frantz, J. and Amosun, S.L. 2011. Identifying strategies to improve research publication output in health and rehabilitation sciences: a review of literature. African Journal of Health Professions Education, 3(1): 7-10.

Jelsma, J.M. and Scott, D.J. 2011. Impact of using the ICF framework as an assessment tool for students in paediatric physiotherapy: a preliminary study. Physiotherapy, 97: 47-54.

Jelsma, J.M., Davids, N. and Ferguson, G. 2011. The motor development of orphaned children with and without HIV: Pilot exploration of foster care and residential placement. BMC Pediatrics, 11:11. (7pp)http://www.biomedical.com/1471-2431/11/11.

Kathard, H., Ramma, L., Pascoe, M., Jordaan, H.J., Moonsamy, S.M., Wium, A.W., du Plessis, S.D., Pottas, L.P. and Khan, N.B.K. 2011. How can Speech Language Therapists and Audiologists enhance language and literacy outcomes in South Africa? (And why we urgently need to). South African Journal of Communication Disorders, 58: 59-71.

Kyriacos, U., Jelsma, J.M. and Jordan, S. 2011. Monitoring vital signs using early warning scoring systems: a review of the literature. Journal of Nursing Management, 19: 311-330.

Lorenzo, T. and Joubert, R.J. 2011. Reciprocal capacity building for collaborative disability research between disabled people's organisations, communities and higher education institutions. Scandinavian Journal Of Occupational Therapy, 18: 254-264.

McKenzie, J.M., Braswell, B.B., Jelsma, J.M. and Naidoo, N.N. 2011. A case for the use of Q-methodology in disability research: lessons learned from a training workshop. Disability and Rehabilitation, 33(21-22): 2134-2141.

Myezwa, H.M., Buchalla, C.M.B., Jelsma, J.M. and Stewart, A. 2011. HIV/AIDS: use of the ICF in Brazil and South Africa-comparative data from four cross-sectional studies. Physiotherapy, 97: 17-25.

Navsaria, I., Pascoe, M. and Kathard, H. 2011. 'It's not just the learner, its the system!' Teachers perspectives on written language difficulties: Implications for speechlanguage therapy. South African Journal of Communication Disorders, 58(2): 95-104.

Norman, V.R., Singh, S.A., Hittler, T.H., Jones, N.J., Kenny, N.K., Mann, R.M., McFarlane, S. and Moeng, A.M. 2011. Indications, medical conditions and services related to gastrostomy placements in infants and children at a tertiary hospital in South Africa. South African Journal of Child Health, 5(3): 86-89.

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Ramma, L. 2011. Vuvuzela media coverage during the 2010 FIFA soccer world cup tournament: Impact on raising awareness of noise-induced hearing loss. Noise & Health, 13(55): 415-422.

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Rogers, C. and Petersen, L. 2011. Aminoglycoside-induced balance deficits: a review of vestibulotoxicity. South African Family Practice, 53(5): 419-424.

Rogers, C., de Wet, J., Gina, A., Louw, L., Makhoba, M. and Tacon, L. 2011. The translation of the Vertigo Symptom Scale into Afrikaans: A pilot study. South African Journal of Communication Disorders, 58: 6-12.

Schmidt Von Wuhlisch, F. and Pascoe, M. 2011. Maximizing health literacy and client recall in a developing context: speechlanguage therapist and client perspectives. International Journal of Language & Communication Disorders, 46(5): 592-607.

Uebel, K., Fairall, L., Van Rensburg, D., Mollentze, W., Bachmann, M.O., Lewin, S.A., Zwarenstein, M., Colvin, C., Georgeu, D., Mayers, P.M., Faris, G.F., Lombard, C. and Bateman, E.D. 2011. Task shifting and integration of HIV care into primary care in South Africa: The development and content of the streamlining tasks and roles to expand treatment and care for HIV (STRETCH) intervention. Implementation Science, 6:86(11).

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# DEPARTMENT OF HUMAN BIOLOGY

HEAD OF DEPARTMENT: ASSOCIATE PROFESSOR LAURISTON KELLAWAY

## DEPARTMENTAL PROFILE

The Department of Human Biology (HUB) includes Anatomy; Biological Anthropology; Biomedical Engineering and Medical Imaging; Cell Biology, Exercise Science and Sports Medicine; Healthcare Technology Management; Human Nutrition and Dietetics; Neurosciences and Physiology.

Academic staff within the Exercise Science and Sports Medicine Research Unit continue to be consulted on various issues related to exercise science and sports medicine and are therefore often in the public eye. Professor Tim Noakes published another book with Michael Vlismas "Challenging Beliefs. Memoirs of a Career" during 2011. He was awarded an honorary doctorate from the Vrije University, Amsterdam in October 2011 in recognition of his outstanding contribution to the field of exercise physiology and sports medicine.

Associate. Professor Malcolm Collins'researchgroup'spublished data has shown that the 3'-UTR of the COL5A1 gene alters mRNA stability in patients with Achilles tendinopathy. This is the first functional data resulting from the initial genetic study in identifying a risk for developing Achilles tendinopathy.

Dr. Yumna Albertus-Kajee'sresearch has shown that patients with chronic diseases have similar muscle activity to healthy controls; however, in post rehabilitation, their muscle activity decreases while their exercise performance improves. This could be explained as a development of muscle efficiency during exercise by possible changes in muscle contractile properties. Also, patients with chronic diseases have similar muscle fibre conduction velocities compared to healthy controls. It is therefore possible to conclude that no muscle myopathies are present in this patient population.

In 2009, Dr Tertius Kohn developed and established the first single skeletal muscle fibre contractile laboratory in Africa. This technology enables the analyses of contractile properties of individually typed muscle fibres, investigating force production, contraction speed and power generation. Dr Kohn has now established a baseline of human contraction data to be used for comparative purposes with exercised or diseased muscle. This technique had been previously used to investigate skeletal muscle myopathy associated with rhabdomyolysis and overtraining in two South African

patients, and ongoing research entails contractile properties in McArdle patients (collaboration with Spain). Furthermore, in order to expand the current literature base on muscle performance, Dr Kohn has since investigated contraction in wild animals (lion, rooikat, black wildebeest, etc). This laboratory (now called the Myology Laboratory) has since expanded to include muscle histology. Preparation, photographing and analyses of histochemical and immunohistochemical derived muscle tissue sections can all take place under one roof. As of 2011, this laboratory is also used for the advanced teaching of honours, master's and PhD students.

Dr Ross Tucker and Dr Dale Rae initiated the Commercial Research Division (CRD) within the UCT/MRC Research Unit for Exercise Science and Sports Medicine (ESSM) in 2011. The aim of the CRD is to take on research projects commissioned and paid for by companies wishing to have the claims of their products scientifically tested. To date seven commercial research projects are underway, all in various stages of progression.

The CRD is managed by Dr Tucker and Dr Rae, and this year Dr Elske Schabort and Dr Yumna Albertus-Kajee have joined the team as Researchers.

A commercial agreement for PeptoSport was reached between UCT (Associate Professor Andrew Bosch from ESSM) and the company producing PeptoSport, the formulation of which was used in a study on recovery in Sevens rugby players. Testing of the product is still ongoing. The use of the product has also moved into other sports, e.g. cycling and running (Two Oceans Marathon).

ESSM and the sport Science Institute of South Africa's (SSISA) High Performance Centre are undertaking a collaborative project with Jembi to develop an online programme for managing rugby players with regard to their training status and levels. The software is presently in the testing phase, after which it will be launched.

In 2007 the Healthy Active Kids South Africa Report Card –led by Professor Vicki Lambert of ESSM, and in collaboration with Discovery Vitality and the Sports Science Institute of South Africa, nine scientists from six tertiary institutions, evaluated the current best evidence available on the four major risk factors placing South Africa's children and youth at risk for chronic diseases (tobacco use, poor diet, lack of physical activity and obesity). The result was a Report Card, which provided an evidence-based picture of the health and activity levels of South African children. Professor Vicki Lambert and other scientific panel members have shared the results of this important advocacy document, which evaluates the evidence, and provides recommendations to various stakeholders, to improve the health and well-being of

South Africa's most important asset, its children. A second report card was produced in 2011.

Collaboration between the University of Northampton, UCT and the South African Medical Research Council has led to several patents being lodged in 2011 with regard to methods for determining susceptibility to soft tissue injuries, and genetic risk factors for tendon and ligament injuries.

Dr Julia Goedecke's NRF rating was renewed, while Dr Tracy Kolbe-Alexander and Dr Robert Lamberts were rated for the first time. Mrs Hendrina Victor was promoted to Chief Technical Officer.

Several Biomedical Engineering, Physiology, Cell Biology and Anatomy academic staff in HUB received awards and accolades during 2011. Sharon Prince, promoted to A/Prof, was awarded an NRF rating and received an Oppenheimer Memorial Trust Sabbatical Fellowship. Dr Bruce Spottiswoode (MRC/UCT Medical Imaging Research Unit) was promoted to Senior Lecturer in the 2011 cycle and was given a Y rating by the NRF. Dr Spottiswoode hosted a hands-on Freesurfer (brain image reconstruction software) course at the Centre for High Performance Computing. A/Prof Tania Douglas was inducted as a Fellow of the South African Academy of Engineering and also acted as Guest Editor of the March 2011 issue of Continuing Medical Education. A/ Prof Ernesta Meintjes returned from a sabbatical at the Laboratory of Neuroimaging of the University of California, Los Angeles, funded by a Fulbright Fellowship. Prof Meintjes was part of the research group awarded R6.6 million by the NRF towards an MRI scanner. She and her collaborators have also received two NIH R21 grants and one NIH R01 grant. Substantial equipment was received for a new Real-Time PCR system for Cell Biology. The new Forensic Anthropology lab was fully renovated in 2011. Capex funding provided a muchneeded total refurbishment of A/Prof Dirk Lang's lab and Dr Lester Davids' Redox lab and a new tissue culture facility on L6. Researchers and students in Biomedical Engineering and the MRC/UCT Medical Imaging Research Unit presented papers at conferences on Human Brain Mapping, Magnetic Resonance in Medicine, Biomedical Imaging and Engineering in Medicine and Biology, in Quebec, Montreal, Chicago and Boston, respectively.

Publications and presentations at conferences have continued as outputs in all of the Departmental divisions. A/Prof Laurie Kellaway was co-organizer and lecturer at the IBRO School for Computational Neuroscience held in Cape Town, attracting 40 selected international students. His postdoc, Dr Amod Kulkarni, won best poster presentation. Prof Vivienne Russell also lectured and tutored students in the IBRO school. She was recently promoted from Associate Editor to Editor-in-chief of Behavioral and Brain Functions and continues to act in her capacity as Deputy

Chief Editor of Metabolic Brain Disease, publishing a Special Issue on "Neuroscience in Southern Africa" based on neuroscience research in 2011. Prof Alan Morris has continued in his post as Associate Editor of the SA Journal of Science and he was an invited speaker at the African Geological Colloquium in Johannesburg. Professor Morris published a book on forensic anthropology, Missing and Murdered and was awarded a Fulbright Visiting Scholar Award to Columbus Ohio for 2012-2013. Prof Graham Louw was an invited speaker at the Anatomy Education meeting in Sao Paulo Brazil. Six anatomy staff and students attended the Advanced Statistics for Biological Anthropology course in Pretoria and several staff and students took part in the 39th Anatomical Society of Southern Africa conference in Johannesburg. Prof Vivienne Russell and several students presented scientific papers at international conferences, including the Brain Disorders Meeting in Bethesda Maryland USA, the Society for Neuroscience Annual meeting in Washington USA, the IBRO World Congress of Neuroscience in Florence Italy, and national neuroscience conferences in Durban and Stellenbosch. Toni Sterley (PhD student) was awarded a Commonwealth Fellowship to further her studies at McGill University Canada, during the first half of 2012. She also attended the aforementioned IBRO School where she was awarded a Fellowship to the Ecole Polytechnique Federale de Lausanne in Switzerland for the academic year 2012-2013. Dr Lester Davids presented his PhD student Dr Dhesnie Keswell's work at the International Pigment Cell conference in Bordeaux, France, where it was awarded the best poster presentation prize. A/Prof Sharon Prince, her students and colleagues, presented papers on aspects of cancer cells at international conferences in Singapore, Scotland, Torino Italy, St Malo France, Suzhou in China, and the Southern African Society of Human Genetics. Aretha Cooper was awarded best speaker prize at the UCT Clinical Laboratory Postgraduate Research Day.

The Division of Human Nutrition was represented at the biennial National Nutrition Congress in Durban by A/Prof Marjanne Senekal, Janetta Habron, Fiona Herrmann, Baheya Najaar, and Zarina Ebrahim. Ms Habron's presentation won the Unilever young scientist award and first prize for best oral presentation. Ms Sharmilah Booley attended the International Society of Behavioral Nutrition and Physical Activity Annual Meeting in Washington in June. Marjanne Senekal and Janetta Harbron also attended and presented posters at the 4th Congress of the International Society of Nutrigenetics/Nutrigenomics (ISNN), Pamplona, Spain in November. Two staff members of the Division of Human Nutrition graduated with higher degrees, Janetta Harbron with a PhD and Fiona Herrmann with an MSc Med. Dr Lauren Hill attended the Critical Care Conference and presented a poster on antioxidant supplementation in the critically ill (systematic review) and an oral presentation on hypoglycaemic episodes in critically ill patients managed with an insulin infusion protocol. Sharmilah Booley represented the Division at a meeting of the South African Food Lab, a working group working towards solutions for Food Security in the country. Baheya Najaar represented the Division at the Breastfeeding Conference (organized by the Department of Health) that resulted in the Tshwane declaration on breast feeding.

## **DEPARTMENTAL STATISTICS**

## Permanent and long-term contract staff

Professors (1 Discovery)	10
Associate Professors (1 MRC)	9
Senior Lecturers (1 MRC)	13
Lecturers (including part-time)	15
Postdoctoral and Research Staff	29
Technical and Support Staff	25
Admin and Clerical Staff	9
Total	110

## **Students**

Doctoral	41
Master's	79
M Phil	25
Honours	40
PG Diploma	18
Undergraduate	1536
Total	1739

## RESEARCH FIELDS AND STAFF

## ASSOCIATE PROFESSOR LAURISTON KELLAWAY

Head of Department; Models of neuroinflammation, stress and brain function, in vivo and in vitro visual cortical mechanisms

#### PROFESSOR WAYNE DERMAN

Research Unit for Exercise Science and Sports Medicine (RUESSM):

Skeletal muscle dysfunction in chronic disease; exercise training in chronic disease

## PROFESSOR SUE KIDSON

Developmental biology; melanocytes and hypopigmentary disorders; eye development and glaucoma

## PROFESSOR MIKE LAMBERT

RUESSM: Fatigue management, recovery after exercise, muscle damage, regeneration, overload, heart rate, human performance

## PROFESSOR ESTELLE V. LAMBERT

RUESSM: Physical activity epidemiology and chronic

diseases of lifestyle; effect of ante-natal nutrition on subsequent health; integration of metabolism and neuroendocrine control of fatigue during exercise, energy balance and obesity

#### PROFESSOR GRAHAM J. LOUW

Human growth; medical education; skeletal analysis

#### PROFESSOR ALAN G. MORRIS

Human evolution; forensic anthropology, skeletal biology of early peoples in southern Africa; history of physical anthropology

## PROFESSOR TIMOTHY D. NOAKES

Discovery Health Chair of Exercise and Sports Science and Director of UCT/MRC; RUESSM: A neural governor that prevents the development of myocardial ischaemia during maximal exercise; neural mechanisms that regulate fatigue during exercise; the aetiology, prevention and treatment of hyponatraemia during prolonged endurance exercise

## PROFESSOR VIVIENNE RUSSELL

Neurophysiology: Development, stress, exercise and vulnerability to neuronal injury; Attention deficit hyperactivity disorder; Depression

## PROFESSOR MARTIN P. SCHWELLNUS

RUESSM: Epidemiology of sports injuries; biomechanical factors associated with sporting injuries, medical conditions that occur as a result of exercise training or competition

## ASSOCIATE PROFESSOR ANDREW BOSCH

RUESSM: muscle glycogen; fatigue; training; performance

## ASSOCIATE PROFESSOR MALCOLM COLLINS

RUESSM: genetic and molecular mechanisms underlying performance and overuse injuries. Chief Specialist Scientist, MRC

## ASSOCIATE PROFESSOR TANIA DOUGLAS

Director of the MRC/UCT Medical Imaging Research Unit (MIRU); biomedical engineering, image processing

## ASSOCIATE PROFESSOR DIRK M. LANG

Nervous system development; axon growth and regeneration

## ASSOCIATE PROFESSOR ERNESTA MEINTJES

MIRU: NRF chair; magnetic resonance imaging

## ASSOCIATE PROFESSOR EDWARD OJUKA

Signaling mechanisms in exercise-induced mitochondrial biogenesis and GLUT4 expression in skeletal muscle

## ASSOCIATE PROFESSOR SHARON PRINCE

Senior Lecturer; The cell and molecular biology of cancer and the identification of novel targets for anti-cancer drugs, with special focus on the T-box transcription factors Tbx2 and Tbx3.

## ASSOCIATE PROFESSOR MARJANNE SENEKAL

Head: Division of Human Nutrition, Weight management and health interventions, dietary assessment, nutritional genomics

#### DR COLIN ANDREW

MIRU: Part-time lecturer; Spatiotemporal EEG dynamics; EEG signal processing, including spectral and coherence analysis. Current application to study of Fetal Alcohol Syndrome in children

#### MS ELMI BADENHORST

Lecturer; medical education, underpreparedness and academic performance

#### MS SHARMILAH BOOLEY

Lecturer; Division of Human Nutrition; Nutrition, HIV/AIDS and quality of life; nutrition related behaviour change interventions for prevention and management of chronic diseases of lifestyle (school and work-place based)

#### DR KISHOR BUGARITH

Senior Lecturer; physiology, neurobiology of stress, neurobiology of food intake

#### MS DINAH CURLING

Lecturer (part-time) Division of Human Nutrition

## DR LESTER M. DAVIDS

Senior Lecturer; redox and antioxidant biology; skin cancer, pigmentary disorders of the skin, vitiligo, hair follicle biology

## MS ZARINA EBRAHIM

Clinical Educator (part-time); Division of Human Nutrition

## DR JACQUI FRIEDLING

Lecturer; skeletal biology; physical anthropology

## MS LENORE FULLER

Lecturer (part-time) Division of Human Nutrition

#### DR JULIA H. GOEDECKE

RUESSM: Senior Lecturer, MRC; obesity

### DR GENEY GUNSTON

Senior Lecturer; gross anatomy; clinical anatomy; medical education

## DR ASFREE GWANYANYA

Senior Lecturer; cardiac pathophysiology, hypertrophy, ion channels

## MS JANETTA HARBRON

Lecturer; Division of Human Nutrition; Obesity and other CDL intervention, Nutritional genomics; Sports nutrition.

## MS FIONA HERRMANN

Clinical Educator (part-time); Division of Human Nutrition

### DR LAUREN HILL

Lecturer; Division of Human Nutrition, clinical dietetics; critical care, nutrition in surgical gastroenterology, gastrointestinal dysfunction, parenteral and enteral nutrition, oxidative stress and antioxidants

## MS FATIMA HOOSEN

Clinical Educator (part-time); Division of Human Nutrition

#### DR LESTER JOHN

MIRU: Senior Lecturer and Software Specialist; EEG & brain-computer interfacing, EMG & bio-mechatronics, medical electronics

## DR ROISIN KELLY-LAUBSCHER

Lecturer: Cardiovascular Physiology, arterial hemodynamics, cardioprotection, ischaemia-reperfusion injury

#### DR TRACY KOLBE-ALEXANDER

RUESSM: Senior Lecturer, Biokinetics

## MS BAHEYA NAJAAR

Lecturer, Division of Human Nutrition, community nutrition, infant and young child feeding

#### MR MLADEN POLUTA

Senior Lecturer; Director: Healthcare Technology Management

#### DR DELVA SHAMLEY

Senior Lecturer; upper limb morbidity in breast cancer, molecular effects of adjuvant therapies in cancer

## DR CHARLES P. SLATER

Senior Lecturer; anatomy, medical education

## DR BRUCE SPOTTISWOODE

MIRU: Senior Lecturer. Cape Universities Brain Imaging Centre: Magnetic Resonance Imaging studies

#### MR STEF STEINER

Lecturer; biomechanics

## DR SUDESH SIVARASU

Lecturer, biomechanics, rehabilitation engineering

## DR VANESSA TANSER

(part-time) medical education

### DR LIZ VAN DER MERWE

Senior Lecturer; ocular development and regeneration, vascular biology, pancreatic islet regeneration, 3-D microscopic image reconstruction.

## DR CHRISTOPHER WARTON

Senior Lecturer; medical education, teaching materials, MRI analysis and cerebellar structure

## Postdoctoral Fellows/Scientific and Research Officers, Research Associates

### DR AMAAL ABRAHAMS

Identifying the molecular basis for treatment resistance in a subset of myasthenia gravis patients of African ancestry

#### DR YUMNA ALBERTUS-KAJEE

RUESM: Postdoctoral Fellow. Electromyography in the the prevention of chronic disease in patients, and neuromuscular adaptations to exercise in athletes.

## DR ROBEA BALLO

Cell Biology and genetics: Genetics of vitiligo.

#### MS SUSAN COOPER

Microscopy Unit: Technical Officer

#### DR EMILY DAVIS

Postdoctoral fellow in cell biology: The role of the developmentally important transcription factor, TBX2, in the cell cycle and cancer

## DR JACQUELINE DIMATELIS

Physiology: Postdoctoral Fellow. Neurophysiology: Development, stress, exercise and vulnerability to neuronal injury; Attention deficit hyperactivity disorder; Depression

#### DR CATHI DRAPER

RUESSM: Senior Research Officer. Social science aspects of physical activity as a means of health promotion and disease prevention. Evaluation of physical activity and sport-related programmes. Medical Education.

## DR JULIET EVANS

RUESM: Postdoctoral Fellow. Metabolic risk factors and obesity in South African women.

## DR JESU CHRISTOPHER JOSEPH

Analyzing the shape variations of segmented MRI brain structures in children with Fetal Alcohol Spectrum Disorders (FASD) by applying shape and deformation analysis.

## MR DAVID KARPUL

RUESSM: Senior Scientific Officer: Setting up the Biomechanics Lab.

## DR DHESHNIE KESWELL

RUESM: Postdoctoral Fellow. Cellular and molecular biology.

## DR TERTIUS KOHN

RUESSM: Research Associate. Muscle biochemistry and exercise science

#### MR SRIRAM KRISHNAN

Development of a light microscope for automated identification of TB bacilli in ZN stained sputum smears

#### DR JACOLENE KROFF

RUESSM: Senior Research Officer: Supervises all research conducted in the Metabolic Chamber Lab, and sets up standard operating procedures for all equipment used in this lab.

## DR WENDY KRÖGER

Postdoctoral fellow in cell biology: The molecular mechanisms by which the T-box transcription factor TBX3 contributes to tumourigenesis.

## DR AMOD KULKARNI

Postdoctoral Fellow (Claude Leon Foundation). In vitro and in vivo neuro-pharmacokinetics and neuropharmacodynamics of natural neuroprotective agents.

#### DR ROBERT LAMBERTS

Postdoctoral Fellow. The influence of environmental conditions on predicting performance and monitoring fatigue

#### DR BARAK MORGAN

MIRU: Behavioural, physiological and neuroimaging studies in affective neuroscience

#### DR LISA MICKLESFIELD

RUESSM: Research Associate. Bone health and physical activity through the different life stages

## DR TINASHE MUTSVANGWA

MIRU: Postdoctoral Fellow: stereo-photogrammetry and facial shape analysis

## DR MICHAEL POSTHUMUS

RUESSM: Postdoctoral Fellow. Molecular and physiological mechanisms underlying musculoskeletal soft tissue injuries

#### DR DALE RAE

RUESSM: Research Associate: Writes the content for the external ESSM web site.

## DR LAURIE RAUCH

RUESSM: Research Associate: Brain activity and cognitive stress

## DR ELSKE SCHABORT

RUESSM: Postdoctoral Fellow: Central Governor Model research group, performance and thermoregulation

## DR ALISON V. SEPTEMBER

RUESSM: Senior Research Officer. Identifying the genetic risk factors contributing to Achilles tendon injuries and other over-use sports injuries

#### DR JAMES SMITH

Postdoctoral fellow in cell biology: Understanding the regulation of TBX2 and TBX3 levels in cancer

#### DR ROSS TUCKER

RUESSM: Research Associate: Central Governor Research

### MRS HENDRIENA VICTOR

RUESSM: Chief Scientific Officer: HPLC analysis

## CONTACT DETAILS

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## RESEARCH OUTPUT

#### **Authored books**

Morris, A.G. 2011. Missing & Murdered. A Personal Adventure in Forensic Anthropology. Cape Town, South Africa: Zebra Press, an imprint of Random House Struik (Pty) Ltd. 240pp. ISBN 978 1 77022 361 5.

## Chapters in books

Russell, V.A. 2011. Overview of animal models of attention deficit hyperactivity disorder (ADHD. Curr Protoc Neurosci. Unit9.35.

## **Articles in Peer-reviewed Journals**

Abrahams, Z., de Villiers, A., Steyn, N., Fourie, J., Dalais, L., Hill, J., Draper, C.E. and Lambert, E.V. 2011. What's in the lunchbox?Dietary behaviour of learners from disadvantaged schools in the Western Cape, South Africa. Public Health Nutrition, 14(10): 1752-1758.

Albertus, Y., Swart, J., Lamberts, R., Lambert, M.I., Noakes, T.D. and Derman, E.W. 2011. Alteration in EMG during a graded teadmill exercise Test after 3 days recovery from angioplasty in a patient with peripheral vascular disease. International SportMed Journal, 12(2): 92-103.

Albertus-Kajee, Y., Tucker, R., Derman, E.W., Lamberts, R. and Lambert, M.I. 2011. Alternative methods of normalising EMG during running. Journal of Electromyography and Kinesiology, 21: 579-586.

Anley, C., Noakes, T.D., Collins, M. and Schwellnus, M.P. 2011. A comparison of two treatment protocols in the management of exercise-associated postural hypotension: A randomised clinical trial. British Journal of Sports Medicine, 45: 1113-1118.

Armstrong, M., Lambert, E.V. and Lambert, M.I. 2011.

Physical fitness of South African primary school children, 6 to 13 years of age: Discovery Vitality Health of the Nation. Perceptual and Motor Skills, 113(3): 999-1016.

Armstrong, M., Lambert, M.I. and Lambert, E.V. 2011. Secular trends in the prevalence of stunting, overweight and obesity among South African children (1994-2004). European Journal of Clinical Nutrition, 65: 835-840.

Asplund, C.A., O.Connor, F.G. and Noakes, T.D. 2011. Exercise-associated collapse: An evidence-based review and primer for clinicians. British Journal of Sports Medicine, 45: 1157-1162.

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Boulter, J., Noakes, T.D. and Hew-Butler, T. 2011. Acute renal failure in four Comrades Marathon runners ingesting the same electrolyte supplement: Coincidence or causation? SAMJ South African Medical Journal, 101(12): 876-878.

Brown, J.C., Miller, C.-.J., Posthumus, M., Schwellnus, M.P. and Collins, M. 2011. The COL5A1 gene, ultramarathon running performance, and range of motion. International Journal of Sports Physiology and Performance, 6: 485-496.

Brown, J.C., Miller, C.-.J., Schwellnus, M.P. and Collins, M. 2011. Range of motion measurements diverge with increasing age for COL5A1 genotypes. Scandinavian Journal of Medicine & Science in Sports, 21: e266-e272.

Collins, M. and Posthumus, M. 2011. Type V collagen genotype and exercise-related phenotype relationships: A novel hypothesis. Exercise and Sport Sciences Reviews, 39(4): 191-198.

Cook, I., Alberts, M. and Lambert, E.V. 2011. Compliance with physical activity guidelines in rural, black South Africans in the Limpopo Province: An energy expenditure approach. British Journal of Sports Medicine, 45: 619-625.

Crombie, D., Lombard, C. and Noakes, T.D. 2011. Increasing emotional intelligence in cricketers: An intervention study. International Journal of Sports Science & Coaching, 6(1): 69-86.

Dambuza, I., Keeton, R., Allie, N., Hsu, N., Randall, P., Sebesho, B., Fick, L., Quesniaux, V. and Jacobs, M. 2011. Reactivation of M.tuberculosis Infection in Trans-

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de Villiers, A., Senekal, M. and Fourie, J. 2011. An ecological approach to non-communicable disease prevention in the workplace. Occupational Health Southern Africa, July/August 2011: 6-11.

Derman, E.W. 2011. Guidelines for the composition of the travelling medical kit for Sports Medicine professionals. International SportMed Journal, 12(3): 125-132.

Derman, E.W., Ferreira, S., Subban, K. and de Villiers, R. 2011. Transcendence of musculoskeletal injury in athletes with disability during major competition. South African Journal of Sport Medicine, 23(3): 95-97.

Derman, E.W., Whitesman, S., Dreyer, M., Patel, D.N., Nossel, C. and Schwellnus, M.P. 2011. Healthy lifestyle interventions in general practice: Part16: Lifestyle and fibromyalgia. South African Family Practice, 53(6): 511-515.

Derman, E.W., Whitesman, S., Dreyer, M., Patel, D.N., Nossel, C., Lambert, E.V. and Schwellnus, M.P. 2011. Healthy lifestyle interventions in general practice: Part 14: Lifestyle and obesity. South African Family Practice, 53(2): 105-118.

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Evans, J., Micklesfield, L.K., Jennings, C., Levitt, N.S., Lambert, E.V., Olsson, T. and Goedecke, J.H. 2011. Diagnostic ability of obesity measures to identify metabolic risk factors in South African women. Metabolic Syndrome and Related Disorders, 9(5): 353-360.

Fein, G. and Andrew, C. 2011. Event-related potentials during visual target detection in treatment-naive active alcoholics. Alcoholism-Clinical and Experimental Research, 35(6): 1171-1179.

Flegar, S.J., Fouche, J.P., Jordaan, E., Marais, S., Spottiswoode, B., Stein, D.J. and Vythilingum, B. 2011. The neural correlates of intimate partner violence in women. African Journal of Psychiatry, 14(Sep): 310-314.

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Hess, A., Tisdall, M.D., Andronesi, O.C., Meintjes, E.M. and van der Kouwe, A.J. 2011. Real-time motion and B0 corrected single voxel spectroscopy using volumetric navigators. Magnetic Resonance in Medicine, 66: 314-323.

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Joffe, Y., van der Merwe, L., Collins, M., Carstens, M.T., Evans, J., Lambert, E.V. and Goedecke, J.H. 2011. The -308 G/A polymorphism of the tumour necrosis factor (alpha) gene modifies the association between saturated fat intake and serum total cholesterol levels in white South African women. Genes and Nutrition, 6: 353-359.

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# **DEPARTMENT OF MEDICINE**

HEAD OF DEPARTMENT: PROFESSOR B.M. MAYOSI

# DEPARTMENTAL PROFILE

The Department consists of 21 clinical divisions and 10 major research units. The clinical divisions are Acute General Medicine, Cardiology, Clinical Haematology, Clinical Immunology, Clinical Pharmacology, Clinical Skills Centre, Critical Care Medicine, Dermatology, Emergency Unit, Endocrinology and Diabetes Medicine, Geriatric Medicine, General Medicine, Hepatology, Infectious Diseases and HIV Medicine, Lipidology, Medical Gastroenterology, Medical Genetics Unit, Nephrology & Hypertension, Neurology, Occupational Medicine Unit, Pulmonology, and Rheumatology.

The Department has 10 major Research Units: Albertina and Walter Sisulu Institute of Ageing in Africa, Centre for excellence for Chronic Disease in Sub-Saharan Africa, Desmond Tutu HIV Research Centre, Hatter Institute for Cardiovascular Research, Lennox Eales Porphyria Lab, Lung Infection & Immunity Unit, Mycobacterial Immunology Group, UCT Leukaemia Unit, UCT Lung Institute and MRC/UCT Drug Discovery & Development (DDD) Research Unit.

# **DEPARTMENTAL STATISTICS**

# **Permanent and Long-term Contract Staff**

Professors	20
Associate Professors	18
Senior Lecturers/lecturers Full-time	85
Administrative and clerical staff	37
Total	160

#### **Honorary Staff**

Honorary Professors	7
Emeritus Professors	4
Honorary Associate Professors	3
Honorary Senior Lecturers	40
Honorary Research Associates	5
Total	59

#### **Students**

Doctoral	39
Master's	122
Undergraduates	1134
Total	1295

# RESEARCH FIELDS AND STAFF

See Divisions and Research Units within the Department

#### CONTACT DETAILS

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# DIVISION OF CLINICAL IMMUNOLOGY

#### HEAD OF DIVISION: ASSOCIATE PROFESSOR S.R. RESS

#### **Divisional Profile**

The Division of Clinical immunology undertakes a multi-disciplinary activity that includes teaching of undergraduate and post-graduate students, evaluation of immune function in patients with suspected immune deficiency, and a translational research programme focussed on immunology of autoimmunity, HIV and TB. This year saw additional expansion of staff and research projects of the Lung Infection and Immunity Unit, under the leadership of Associate Professor Keertan Dheda. He also hosted several visitors who gave invited talks.

### **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Associate Professors	2
Postdoctoral scientists	5
Research Staff (nurses)	5
Technical Support Staff	4
Administration	2
Total	18

### **Students**

Total	13
Doctoral	9
Master's	4

# RESEARCH FIELDS AND STAFF

#### ASSOCIATE PROFESSOR STANLEY RESS

Immunology of tuberculosis, Autoimmunity

#### ASSOCIATE PROFESSOR KEERTAN DHEDA

Research Interests

Immunopathogenesis, diagnosis, management and outcomes of lung diseases associated with poverty including TB, HIV and pneumonia. Specific areas of interest and ongoing work:

- 1. Pathogenesis, transmission dynamics, and clinical outcomes of MDR-TB and XDR-TB.
- 2. Development and validation of field-friendly diagnostics for TB
- 3. Immunopathogenesis of pulmonary TB using cells obtained from the lung

# **CONTACT DETAILS**

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# **DIVISION OF DERMATOLOGY**

### HEAD OF DIVISION - PROFESSOR GAIL TODD

#### **Divisional Profile**

The Dermatology service was started in 1919 at Somerset Hospital by a physician with a special interest in dermatology. Specialization through the University of Cape Town was established in the 1960s providing services for adults and children. It is an independent specialty with its own College within the Colleges of Medicine of South Africa. It has grown into a vibrant unit offering multiple tertiary services and outreach opportunities, teaching for undergraduates and post graduates with a considerable research output. The unit has made significant contributions to knowledge and understanding in the areas of eczema (atopic and contact), serious drug reactions, occupational health, hair disorders, melanoma, vitiligo, infectious and connective tissue diseases especially as they relate to Southern Africa.

The UCT Skin and Hair Centre situated in the UCT Lung Institute was formally established to enhance the research and academic activities of members of the division. The Centre accommodates a phototherapy, contact dermatitis and consultant service for skin and hair diseases.

#### **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Associate Professors	2
Senior Lecturers (full-time)	1
Senior Lecturers (part-time, 5/8)	2
(part-time, sessional)	4
Lecturer (part-time, 5/8)	1
(sessional, DOE funds)	1
Research Staff	4
Administrative and Clerical Staff	4
Honorary Lecturers	3
TOTAL	20

#### **STUDENTS**

Doctoral	2
Master's	9
Undergraduate	784
TOTAL	795

# RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

# ASSOCIATE PROFESSOR GAIL TODD

Head of Division; Genetic basis for atopic eczema in African children, collaborative project with Universities of Dundee, Dublin and Zurich; Occupational skin disease; All aspects of vitiligo especially national epidemiology and cancer risk; Community dermatology; IT use in teaching and service delivery; Systemic drug reactions, predictive testing for culprit drug and re-challenge regimes; African councillor on the International Psoriasis Council; Convener of 5th year MBChB Mixed Specialties program MDN500W.

### DR SUSAN JESSOP

IT use in teaching and service delivery; Evidenced-based dermatology in collaboration with the Cochrane Skin Group as a lead editor, Nottingham UK; Medical education; Convener of the 5th year MBChB program.

# ASSOCIATE PROFESSOR NONHLANHLA KHUMALO

African scalp and hair disorders. Blistering dermatoses. Vulval disorders. Evidence-based dermatology.

#### DR LADUMA NGWANYA (5/8)

Dermatopathology; Diseases of the hair and nails

#### PN PATRICIA KELLY (PART-TIME LECTURER)

Lecturer and nurse convener for the 5th year MBChB dermatology student block; Course convener and lecturer for the UCT Dermatology Nurse Course; Follow-up study on post-graduate dermatology nurses; International Skin Care Nursing Group South African representative

# Registrars

# DR DIDI MOTSEPE (SUPERNUMERARY REGISTRAR)

Relevance of a positive specific latex IgE (RAST) result in a non-medical occupational setting

### DR FATEMA ESMAIL (SUPERNUMERARY REGISTRAR)

Genetic basis for atopic eczema with special relevance to filiggrin gene defects in African children and their patterns of sensitization, collaborative project with University of Dundee, Dublin and Zurich

#### DR VANESSA LAPINER

Quality of life in patients with vititligo, genetic skin diseases

#### DR ILSPHI BROWNE (5/8 SUPERNUMERARY POST)

Changing pattern of skin diseases in HIV-infected patients

# DR THURAYA ISAACS (5/8 SUPERNUMERARY REGISTRAR)

The clinical patterns of Kaposi/s sarcoma relative to HHV8 clades

# DR NOMPHELO GANTSHO (5/8 SUPERNUMERARY POST)

The epidemiology and treatment of acne keloidalis

#### Researchers

# DR RANNAKOE LEHLOENYA (DISCOVERY HEALTH PHD FELLOW)

Drug reactions and hypersensitivity testing; Immune reconstitution syndrome in HIV

# DR SAMANTHA EISMAN (SESSIONAL CONSULTANT)

Teledermatology and the use of cell phone technology; Laser therapy

#### DR ANITA BONTHYS (MRC RESEARCH FELLOW)

A study of pigmented naevi

# DR BIANCA TOD (SUPERNUMERARY RESEARCH FELLOW)

Spectrum of skin rashes in measles and the effect of HIV co-infection

# PN JUDY WALLACE (SISTER - WARD G23)

Nursing care of severe drug reactions; Re-challenge of TB medication following serious cutaneous drug reactions; Management of leg ulcers

### PN NORA CHRISTIANS

Lecturer for the UCT Dermatology Nurse Course; RegiSCAR data capture; Applied research

S. Woods (IT consultant – part-time)

Development and maintenance of dermatology databases and teaching slides

# CHRONIC DISEASES INITIATIVE IN AFRICA (CDIA)

### DIRECTOR: PROFESSOR N.S. LEVITT

#### **Divisional Profile**

The Chronic Diseases Initiative in Africa (CDIA), funded by the United Health Chronic Disease Initiative and the National Heart Lung Blood Institute (NHLBI), was launched in November 2009. It forms part of an 11 centre Global Health Initiative focussing on non communicable disease research in the developing world. CDIA comprises of a network of researchers drawn from the University of Cape Town, Stellenbosch University and the University of the Western Cape, along with the South African Medical Research Council, Harvard University and Shree Hindu Mandal Hospital, Tanzania, in addition to representatives from local and national Departments of Health. CDIA's mission is to serve as a collaborating initiative for the development, evaluation and dissemination of methods and programmes to prevent chronic non-communicative diseases, and improve the quality of care for people with these diseases and their risk factors.

# Research

# **Currently funded projects:**

Develop, evaluate and implement integrated chronic disease management guidelines for primary care providers Eden District Randomised, Controlled-Trial for Primary Care of Chronic, Non-Communicable Diseases (NCDs) will be conducted to test the effectiveness of a novel training approach based on a previously tested model of syndromic screening and management of patients with conditions such as chronic obstructive pulmonary disease, asthma, or TB. A written guideline (101 pages) has been prepared for the management of chronic diseases by primary care nurses and doctors. The trial will test whether the approach, previously shown to be effective for respiratory diseases including tuberculosis and HIV/AIDS, will remain effective when expanded to include the primary care management of other major categories of chronic diseases (hypertension, diabetes, depression).

To calibrate and validate a non-laboratory based screening tool for cardiovascular disease (CVD) risk prediction in South Africa

The predictive performance and risk discrimination of the non-laboratory-based risk score to five commonly used laboratory-based scores (Framingham CHD and CVD, SCORE for low and high risk settings, CUORE) was evaluated in 11 South African cohorts, which represents all cross sectional studies conducted in the country over the past 25 years for which the necessary data were available.

Develop, evaluate and implement an economic model to assess the cost-effectiveness of interventions. This project aims to develop a CVD Prevention and Management Model that would allow us to predict CVD events accurately and be used in cost-effectiveness analyses comparing the use of different screening and intervention strategies.

Develop the capacity of community health workers, primary care facilities and managers in the area of chronic diseases. This project aims, in collaboration with the provincial DOH to define the role of a community health worker in caring for patients with NCDs and to develop suitable NCD training materials and tools for this group.

Develop, evaluate and implement lifestyle tools for the general public and patients. "Putting Prevention into Practice" This project aims to produce and pilot a resource package for primary health care providers and community health workers to enable them to offer brief, best practice, behavioural change counselling in a variety of settings, on the topics of smoking; poor diet; obesity and overweight and lack of physical activity.

Develop, evaluate and implement new models for health education, communication and empowerment of patients The evaluation, by means of a pragmatic cluster randomized controlled trial, the effectiveness of a group diabetes education programme delivered by health promoters with a guiding (motivational interviewing) style, in community health centres in Cape Town.

### **Divisional Statistics**

# CDIA/UCT Permanent and Long-term Contract Staff

Professor	1
Professor (Visiting)	1
Social Scientist	1
Administrative and Clerical Staff	2
Total	5

#### **UCT Network Members**

Professor	5
Professor (Hon)	
Senior Lecturer	1
Other (Senior Researcher)	1
Total	7

#### **NON-UCT Network Members**

Professor	5
Professor (Hon)	
Senior Lecturer	1

Senior Clinical Research Fellow	
Senior Registrar in Training	
Medical Officer (sessional)	
Diabetes Specialist Nurse	
Other	2
Total	8

# **CONTACT DETAILS**

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# DIVISION OF ENDOCRINOLOGY AND DIABETIC MEDICINE

HEAD OF DIVISION: PROFESSOR N.S. LEVITT

# **Divisional Profile**

The Division provides an inpatient and outpatient clinical service and sub-speciality training in adult endocrinology and diabetes. It has close clinical links with Paediatric Endocrinology and Diabetes, Reproductive Endocrinology and Chemical pathology. We are currently training our first endocrinology senior registrar from Zambia, Dr Brown who has come to us as an experienced physician.

# Research

The Division is involved in a wide range of research activities, interacts with a number of international and local collaborators and is a member of the recently established Chronic Disease Initiative in Africa. The primary areas of research are:

- Metabolic consequences of antiretroviral therapy in HIV+ patients: Cross-sectional and longitudinal studies examining the metabolic consequences of HAART are underway. These are being funded by the World Diabetes Foundation and Department of Health
- Burden of disease: The contribution of diabetes and other chronic diseases to the overall burden of disease pattern in the South African context is been studied in collaboration with Dr Debbie Bradshaw, BOD Group, MRC. A cross sectional survey of diabetes and other cardiovascular risk factors in the Black African community in Cape Town has been completed.
- Obesity: In collaboration with the Department of Human Biology, a number of studies are in progress.
   These examine the mechanisms underlying the

aetiology of obesity and insulin sensitivity in black and white African women.

- Addison's Disease: Cardiovascular risk factors in Addison's disease has been investigated in collaboration with the University of Gothenberg. The impact of glucocorticoid receptor polymorphisms on cardiovascular risk factors has been assessed in Addison's disease.
- Health Systems Research: The Division collaborates
  in projects being conducted by the Chronic Diseases
  Initiative in Africa. These include: a pragmatic cluster
  randomised trial of an integrated guideline for the
  management of diabetes and other chronic diseases
  is in primary care centre, a randomised controlled
  trial to evaluate the effectiveness of a group diabetic
  education programme using motivational interviewing
  in underserved communities; and the development of
  a resource package for primary health care providers
  and community health workers to enable them to offer
  brief counselling on lifestyle.

#### **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Professor	1
Professor (visiting )	1
Senior Lecturers	2
Senior Registrar in Training	1
Medical Officer (sessional)	1
Diabetes Specialist Nurse	2
Administrative and Clerical Staff	1
Total	8

# RESEARCH FIELDS AND STAFF

#### PROFESSOR N S LEVITT

Diabetes and hypertension health systems research, diabetes burden of disease, mechanisms underlying the metabolic sequelae of obesity, metabolic consequences of HAART

#### PROFESSOR K STEYN

Hypertension health systems research, burden of chronic disease and smoking in pregnancy

# DRIL ROSS

National registry for Study of Addison's Disease and polyglandular autoimmune syndrome

#### DR J DAVE

Incidence of osteoporosis and vertebral fractures in patents with inflammatory bowel disease Metabolic consequences of antiretroviral therapy

# CONTACT DETAILS

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# DIVISION OF GASTROENTEROLOGY (GASTROINTESTINAL CLINIC)

HEAD OF GI CLINIC: PROFESSOR S. THOMSON

#### **Divisional Profile**

The Gastrointestinal Clinic is a multi-disciplinary clinical unit consisting of Medical and Surgical components. This report primarily reflects the Medical component. The Clinic carries a large clinical load and offers a number of specialised services, with clinical and applied research interests in: Hepatobiliary disease; Colorectal disease; Oesophageal disease; Inflammatory bowel disease; H.pylori related disease; and Nutrition. The Clinic is involved in a number of collaborative research projects.

#### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Lecturers	5
Research Staff	1
Administrative and Clerical Staff	1
Total	5

#### **Students**

Master's		4
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# RESEARCH FIELDS AND STAFF

DR GILL WATERMEYER: Risk of malignancy in inflammatory bowel disease treated with Azathioprine or 6-Mercaptopurine; Predicting bad outcome in Crohn's disease; drug trials – various

**DR DION LEVIN:** Bleeding Peptic Ulcer Disease; *Helicobacter.pylori* testing.

DR NAAYIL RAJABALLY: Clostridium difficile in IBD.

DR EDUAN DEETLEFS: TB in IBD

# **CONTACT DETAILS**

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# DIVISION OF HAEMATOLOGY AND UCT LEUKAEMIA UNIT

#### HEAD OF DIVISION: PROFESSOR N. NOVITZKY

#### **Divisional Profile**

The Division of Haematology at Groote Schuur Hospital is a complex unit with multi disciplinary activities that include outpatient clinics, admission beds as well as diagnostic and research laboratories. The clinical services are organised under the umbrella of the Department of Internal Medicine, while the laboratory diagnostic sections are under the broader organisation of the Department of Clinical & Laboratory Sciences and National Health Laboratory Service (NHLS). The Haematology section of the laboratory was accredited with SANAS 3 years ago and after review, this accreditation was confirmed last year.

Patients with elaborate clinical problems, bone marrow failure or requiring stem cell transplantation are referred from all provinces; particularly the Northern and Eastern Cape and particularly we receive referrals from foreign institutions in Sub-Saharan Africa. In addition, individuals with multiple myeloma and other lymphoproliferative disorders are treated together with the Department of Radiation Oncology in combined clinics. Of concern is that a substantial increase in the numbers of HIV related malignancies and particularly Burkitt's lymphoma and leukaemia that have significantly strained our hospital beds.

The Division of Haematology provides training for both undergraduate and postgraduate students at the Medical Faculty. Registrars and consultants participate in undergraduate training, facilitating various modules focussing in blood disorders. At the postgraduate level, training is given at the level of master's and PhD courses in cell biology as well as specialist training in haematopathology for medical graduates. In addition, within the Department of Clinical and Laboratory Sciences 3 divisions participate in the training provided to Clinical Pathology candidates. Regular experiential teaching and microscope tutorials are given to registrars in Haematopathology. Journal Clubs, seminars and group teaching is offered to Haematopathology, Clinical Haematology and general medical registrars. Interdepartmental meetings are held with academic staff from Tygerberg Hospital and Red Cross War Memorial Children's Hospital. Faculty members from the division also regularly contribute to the teaching

programmes of the basic sciences as well as Departments of Internal Medicine and Clinical and Laboratory Sciences.

In addition a University of Cape Town Leukaemia Unit established within the division, has now been reviewed and approved by the University Research Committee and will continue focusing its research work in the area of haemopoietic stem cell biology and stem cell transplant immunology. The research laboratory located at the medical school campus is well equipped to support undergraduate and postgraduate pathology and science students. Dr Shaheen Mowla has joined Dr Karen Shires to expand the molecular and cellular research in the Leukaemia Unit laboratory. The main objective will be to pursue further research into the area normal and malignant haematopoiesis, detection of minimal residual disease in patients with leukaemia, cellular therapies and stem cell transplantation.

# **Divisional Statistics**

# **Permanent and Long-term Contract Staff:**

Professor	1
Clinical Service	
Senior Specialists	1
Specialist	1
Clinical Registrars	3
Senior House Officers	2
Chief Professional Nurse	2
Administrative and clerical staff	3
Diagnostic Service	
Senior Pathologist	1
Pathologists	2
Pathologist part-time	1
Scientist	1
Pathology Registrars	5
Laboratory Manager	1
Medical Technologists	17
Technicians	4
UCT Leukaemia Unit	
Scientist	1
Research Officer	1
Research Technologist	1
Clinical Research Co-Ordinator	1
Administrative and clerical staff	1
Laboratory assistants (medical school)	2

# **Students**

Doctoral	2
Master's	3
MMed	2
Honours	1

# RESEARCH FIELDS AND STAFF

### PROFESSOR NICOLAS NOVITZKY

Haematopoietic stem cell biology; clonogenic assays; haematopoietic stem cell transplantation; immune reconstitution; haematological malignancies

#### DR CECILE DU TOIT

Haematopoietic stem cell transplantation; haematological malignancies; haemophilia

#### DR. ANDREW MCDONALD

Haemophilia; thrombophilia; stem cell transplantation

#### DR MAUREEN STEIN

Haematopoietic stem cell biology

#### DR JESSICA OPIE

Molecular biology of neoplasia: chronic myelogenous leukaemia; coagulation abnormalities

#### DR KAREN SHIRES

Molecular biology and diagnostics

#### DR SHAHEEN MOWLA

Minimal residual disease and flow cytometry.

#### MRS RYGANA ABDULLA

Cellular biology of neoplasia; clonogenic assays

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# **DIVISION OF HEPATOLOGY**

# HEAD: A/PROFESSOR WENDY SPEARMAN

#### **Divisional Profile**

The Division of Hepatology runs the only dedicated liver clinic as well as the only state liver transplant programme in the country. We also run a Porphyria clinic.

The unit is referred patients from all provinces in South Africa as well as from neighbouring countries such as Zimbabwe and Namibia for assessment regarding the aetiology and management of both acute and chronic liver disease and suitability for liver transplantation. These referrals come from both the private and public sector.

We provide a direct call-in service telephonic to primary, secondary and tertiary medical centres regarding management of liver disease. The Liver unit works closely with the Surgical Hepatobiliary unit and collaborates with the Surgical Research laboratory.

The major areas of research include: viral hepatitis, autoimmune liver disease, immune abnormalities in liver disease, HIV and liver disease, porphyria, liver transplantation and development of bioartificial liver support devices.

The unit is actively involved in drawing up national guidelines for the management of Hepatitis B / HIV coinfection Hepatitis B and Hepatitis C.

#### **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Associate Professors	1
Senior Lecturers / Research Officers	2
Technical Support Staff	2
Total	5

### **Honorary Staff**

Honorary staff	1
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# RESEARCH FIELDS AND STAFF

#### H.N. HAIRWADZI

Autoimmune liver disease; viral hepatitis, bone disease in chronic liver disease

# M.W. SONDERUP

HIV and liver disease; viral hepatitis; porphyria

# C.W.N. SPEARMAN

Liver transplantation; viral hepatitis; paediatric liver disease, acute liver failure and bioartificial liver support devices

# CONTACT DETAILS

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# THE ALBERTINA AND WALTER SISULU INSTITUTE OF AGEING IN AFRICA/DIVISION OF GERIATRIC MEDICINE

HEAD OF DIVISION OF GERIATRIC MEDICINE: PROFESSOR M. COMBRINCK

ACTING HEAD OF INSTITUTE OF AGEING IN AFRICA: DR S. KALULA

# **Institute Profile**

The Albertina and Walter Sisulu Institute of Ageing in Africa (IAA) is a Cross-Disciplinary Group. The IAA represents a coalescence of institute - wide disciplines with a focus on ageing: specifically Geriatric Medicine; Geriatric Neurology; Geriatric Neuropsychology and Old Age Psychiatry. The International Longevity Centre-South Africa is incorporated in the Institute. The vision of the IAA is to be an academic, clinical, research and policy centre of excellence and relevance in Africa. Its mission is to facilitate the delivery of the highest standard of inter-disciplinary, in-context training for health and allied professionals and evidence-based clinical and social care for older people, whilst undertaking appropriate research and audit upon which policy and planning for older persons may be based. The mission is achieved through inter-disciplinary partnerships and teamwork, and human resources development within current legal, ethical and financial constraints. The IAA is a leader in the area of research on ageing in sub-Saharan Africa, and enjoys international recognition and acclaim.

### **Institute Statistics**

# **Permanent and Long-term Contract Staff**

Associate Professor	1
Senior Lecturers	5
Senior Scientific Officer	1
Medical registrars	2
Administrative and Clerical Staff	1
Total	10

#### **Honorary Staff**

Visiting Researcher	1
Senior Lecturer	2
Total	3

#### Students

Doctoral	3
Master's	3
Total	6

# RESEARCH FIELDS AND STAFF

#### DR SEBASTIANA KALULA

Epidemiology of dementia; falls; quality of care.

#### DR LINDA DE VILLIERS

Stroke risk factors and rehabilitation; post-discharge stroke community care.

#### ASSOCIATE PROFESSOR MARC COMBRINCK

NRF Research Chair in Clinical Neurosciences: neuro-inflammation and mechanisms of neuro-degeneration with specific reference to cognitive impairment in the elderly and in HIV-associated encephalopathy.

#### DR KEVIN G.F. THOMAS

Senior Lecturer, Department of Psychology: geriatric neuropsychology; dementia; impact of stress on memory; impact of life stressors on age-related cognitive decline.

#### DR JOHN A. JOSKA

Senior Lecturer, Division of Neuropsychiatry, Department of Psychiatry and Mental Health: neurocognitive disorders in HIV infection.

# **CONTACT DETAILS**

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# DIVISION OF NEPHROLOGY AND HYPERTENSION

HEADS OF DIVISION: ASSOCIATE PROFESSOR B.L. RAYNER

# **Divisional Profile**

Currently the new division offers a wide range of clinical services including chronic and acute dialysis, renal transplantation, assessment and treatment of a broad range of kidney disease and resistant hypertension, 24 blood pressure monitoring renal biopsies, prevention of chronic kidney, and cardiovascular risk assessment. The unit is supported by a dedicated team of transplant surgeons. Treatment is offered to both private and indigent patients. It also offers out reach programmes to Khayelitsha Community Health Centre and GF Jooste Hospital locally, and to George Hospital, the Northern and Eastern Cape.

There is active training programme for senior registrars in Nephrology and the unit is currently training 5 nephrology fellows. The division supports the Department of Medicine training of medical students, specialist physicians and professions allied to medicine. The division also supports training of renal technologists and the nephrology course for purses

The main academic research activities of the division relate to renal bone disease; systemic lupus erythematosis (SLE); genetics of salt sensitive hypertension; diabetic nephropathy; classification, genetics, prevalence and treatment of HIV associated nephropathy; the genetics of ACE inhibitor related angioedema in black and coloured South Africans; treatment of renal artery stenosis due to atherosclerosis; vascular calcification in CKD stage 5 and its effects on central aortic BP; detection of vascular calcification; and the effects of antiviral treatment on BP in patients living with HIV.

# **Divisional Statistics**

# Permanent and Long-term Contract Staff and students

Associate Professors	2
Senior Lecturers	2
Emeritus Professor	1
Senior registrar	5
Part-time consultant	1
Medical officers	3
Medical registrars	3
PhD Students	0
Total	15

# RESEARCH FIELDS AND STAFF

# ASSOCIATE PROFESSOR C.R. SWANEPOEL

HIV and the kidney – worked on the development of a HIV and renal disease classification. Principal researcher is Dr N Wearne.

DR Z BARDAY

DR YVONNE TRINDER

# DR IKE OKPECHI

Lupus registry; Quality of life in CAPD patients

#### ASSOCIATE PROFESSOR BRIAN RAYNER

Cardiovascular outcomes in renal atherosclerotic lesion (CORAL Study): A prospective, multi-center, unblinded, two-arm, randomized trial; Genetics of salt sensitive hypertension (PhD dissertation); PTH and low renin hypertension; The genetics of ACE inhibitor related angioedema in black and coloured South Africa

#### DR CRAIG ARENDSE

Prospective observational study of all HIV positive patients who undergo a renal biopsy at GSH hospital to establish best medical management, mortality and spectrum of disease.

#### DR NICOLA WEARNE

Retrospective analysis of all HIV positive renal biopsies between 2004 and 2008 at GSH hospital; Prospective observational study of all HIV positive patients who undergo a renal biopsy at GSH hospital to establish best medical management, mortality and spectrum of disease; HIV related renal disease: Histological Classification; Randomised controlled study: Treatment of HIV +ve patients with confirmed HIVAN on renal biopsy with Corticosteroids; Epidemiology of renal dysfunction and chronic kidney disease in HIV positive HAART naïve patients

#### DR BONGINKOSI MAHALA

Retrospective analysis of biopsy proven focal segmental glomerulosclerosis; MYH9 polymorphisms and susceptibility to FSGS, HIVAN and hypertensive nephrosclerosis; Cardiovascular outcomes in renal atherosclerotic lesion (CORAL Study): A prospective, multi-center, unblinded, two-arm, randomized trial;

#### STELLA ALAGBE

New Onset Diabetes in renal transplant recipients

#### DR ROB FREERCKS

Impact of Vascular calcification on central blood pressure in CKD-5D; Ambulatory blood pressure monitoring in CKD-5D; Detection of vascular calcification in CKD-5D

# **CONTACT DETAILS**

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# **DIVISION OF NEUROLOGY**

# HEAD OF DIVISION: ASSOCIATE PROFESSOR A. BRYER

# **Divisional Profile**

A general clinical neurology service is operated at Groote Schuur Hospital. This provides a full range of clinical activities, including in-patients, consultative, and emergency services. Additionally, there is a clinical neurophysiology laboratory, a dedicated actue stroke unit, and specialised clinics for stroke, myasthenia gravis, HIV neurology, neuro-genetic disorder and epilepsy.

Areas of research include Stroke, Myasthenia gravis, HIV/ AIDS, Dementia, Neurogenetics, Multi-media teaching.

#### **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Associate Professors (Full-time)	4
Senior Lecturers (Full-time)	1
Lecturers (Part-time)	2
Total	7

#### **Postgraduate Students**

B.Sc Hons	2
M. Sc.	4
PhD	1
M. Med (Psychiatry)	1
M. Med (Family Med)	1
MA (Neuropsychology)	2

# RESEARCH FIELDS AND STAFF

#### ASSOCIATE PROFESSOR A. BRYER

Stroke; neuro-genetics.

### ASSOCIATE PROFESSOR B. KIES

Parkinson's disease; clinical trials, neurology education.

#### DR E. LEE PAN

Health systems information technology; multi-media teaching.

# ASSOCIATE PROFESSOR J. HECKMANN

Myasthenia gravis; HIV neurological disease, HIV neuropathy, neuro-immunology; neuro-genetics.

# ASSOCIATE PROFESSOR M. COMBRINCK

Neuro-inflammation, HIV dementia, cognitive impairment in the elderly, Alzheimer's disease.

# CONTACT DETAILS

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# DIVISION OF CLINICAL PHARMACOLOGY

# HEAD OF DIVISION: PROFESSOR GARY MAARTENS

#### **Divisional Profile**

The major research thrusts of the division are focused on drugs for malaria, tuberculosis and HIV. The research in these fields is broad and encompasses drug discovery, pharmacokinetics, pharmacogenomics, clinical trials, pharmacoepidemiology, and pharmacoeconomic evaluation. The analytical laboratory plays a key research role with small animal models for drug discovery and in patient samples for drug concentrations. A large multicentre malaria clinical research group headed by Prof Karen Barnes has secured substantial funding from the Gates Foundation and the Global Fund - this programme is at the forefront of translational malaria research in Africa. The MRC South African Traditional Medicines Research Group is a drug discovery programme: Prof Kelly Chibale, Dept Chemistry, UCT and Prof Peter Smith from our division are co-directors. Compounds with antimalarial, antibacterial (including antitubercular) and antifungal activity are identified and optimised from plants used in traditional medicine. The analytical laboratory has recently been awarded funding from NIH as an International Pharmacology Specialty Laboratory. Prof Helen McIlleron heads our clinical pharmacokinetic group, which conducts a series of pharmacokinetic studies evaluating antitubercular drugs, antiretroviral drugs, and the interaction between them in adults and children with funding from the Wellcome Trust, NIH, and MRC. Our collaboration on population pharmacokinetics with Uppsala University is ongoing and we have a pharmacometric laboratory to perform these complex analyses.

#### **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Professors	2
Associate Professors	3
Senior Lecturer	3
Senior Research Officer	1
Medical Research Officer	1
Registrars	4
Research Fellow	1

Technical Support	10
Database Manager	1
Quality Assurance Manager	1
Information Pharmacist	4
Editor SAMF	1
Clinical Trial Monitors	1
Administrative and Clerical Staff	7
Departmental Assistance	1
TOTAL	41

# **Honorary Staff**

Honorary professor	1
Honorary Lecturers	2
Honorary Research Associates	1
TOTAL	4

#### **Postgraduate Students**

Postdoctoral	1
Doctoral	13
Master's	1
TOTAL	15

# RESEARCH FIELDS AND STAFF

#### BARNES, KI.

Malaria, combination antimalarial therapy – operational and policy research. Antimicrobial pharmacokinetic studies to inform optimal dosing in vulnerable populations

#### BLOCKMAN, M.

Rational and cost-effective prescribing of medicines; drug utilisation review; adverse drug reaction monitoring; drug policy and regulation; human research ethics.

#### CAMPBELL, WE.

Phytochemical studies on indigenous Amaryllidaceae species; structural studies on active compounds isolated from traditional medicinal plants

# COHEN, K.

Antiretroviral pharmacokinetics and efficacy; pharmacokinetics of antiretrovirals in children; pharmacoepidemiology.

# GABRIELS, G.

Analytical chemistry, pharmacokinetics, traditional medicines, drug discovery and development, drugs and sport performance

#### MAARTENS, G.

Adherence to antiretroviral therapy; immunopathology & diagnosis of HIV-associated tuberculosis; pharmacoeconomic evaluation of antiretroviral therapy; pharmacogenomics of antiretrovirals

#### MCILLERON, H.

Pharmacokinetic-pharmacodynamic relationships of antitubercular and antiretroviral drugs; pharmacogenomics; population pharmacokinetics; drug interactions between antiretrovirals and rifamycins.

#### SMITH. PJ.

Mechanisms of antimalarial drug resistance; pharmacokinetics of anti-tuberculosis drugs; isolation of novel drugs from traditional medicines; development of new drug assays.

#### WIESNER, L.

Pharmacokinetics of antimalarial drugs; drug assay development; metabolite identification; drug formulation.

# **CONTACT DETAILS**

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# **DIVISION OF RHEUMATOLOGY**

# HEAD OF DIVISION: PROFESSOR ASGAR ALI KALLA

# **Divisional Profile**

The Division of Rheumatology has several research interests relating to different aspects of the rheumatic diseases. Osteoporosis is an area of interest for many years and there is ongoing collection of longitudinal bone mineral density data in patients with rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE). Age-related bone loss at different skeletal sites is being prospectively studied in collaboration with the Department of Nuclear Medicine and the Endocrine Unit. Recently, collaborative studies with the Division of Hepatology have been carried out to see the relationship between bone mineral density (BMD) and autoimmune hepatitis. Clinical drug trials are in progress to study the safety and efficacy of the newer biological DMARDs in RA and SLE. Recently, the trials of coxibs are concentrating on cardiovascular outcomes to a greater extent than their gastr-toxicity. We have also been looking at SLE genetics in collaboration with the Hepatology, with particular reference to the Vitamin D receptor and its role in the pathogenesis of auto-immune diseases. Newer areas of research include the study of chronic tophaceous GOUT; community aspects of diagnosing and treating rheumatic diseases at CHC's: early rheumatoid arthritis; genetics of bone loss in SLE; and functional problems in ankylosing spondylitis. The rheumatic diseases unit provides inpatient and outpatient rheumatology services for the entire Western Cape region. Sessions are carried out at the Heideveld and Khayelitsha Community Health Centres 6 times a year. We have recently extended the service to Guguletu CHC as well. Training is provided on a continuous basis for medical students, allied health professionals, a medical officer, two rotating medical registrars and two career registrars. Research is largely clinically orientated, but a laboratory-based approach is being used to study the genetics of SLE and the differentiation between flares and infection in SLE patients. Family studies have also been started in patients with SLE and RA. In addition, there is significant involvement in clinical drug trials in rheumatoid arthritis, systemic lupus erythematosus and osteoarthritis.

# **Divisional Statistics**

# **Permanent and Long-term Contract Staff**

Professor	1
Lecturers	3
Research Staff	2
Nurse practitioner	1
Administrative and Clerical staff	1
Total	8

# **Honorary Staff**

Honorary Lecturers	3
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#### **Students**

Rotating Medical Registrar	2
Medical Officers (SHO)	1
Total	3

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# RESEARCH OUTPUT

### **Authored books**

Kalula, S.Z., Khalil, D., Perold, A.P., Ross, K., De Villiers, L. and van niekerk, S.N. 2011. Nursing Care for the Older Person: A Practical Approach. Cape Town, South Africa: Pearson Education Limited. 285pp. ISBN 9780796224828.

Opie, L.H. 2011. Living Longer, Living Better: Exploring the Heart-Mind Connection. Oxford: Oxford University Press. 188pp. ISBN 978-0-19-852567-7.

#### Chapters in books

Benatar, S.R., Daar, A. and Singer, P. 2011. Global health ethics: the rationale for mutual caring. In S. Benatar and G. Brock (eds), Global Health and Global Health Ethics, pp. 129-140. Cambridge: Cambridge University Press. ISBN 978-0-521-146777.

Benatar, S.R. and Upshur, R. 2011. What is global health? In S. Benatar and G. Brock (eds), Global Health and Global Health Ethics, pp. 13-23. Cambridge: Cambridge University Press. ISBN 978-0-521-146777.

Kalula, S.Z. and Ogunniyi, A. 2011. Population Ageing: The Changing Profile of Chronic Diseases in Developing Countries. In N. Phaswana-Mafuya and D. Tassiopoulos (eds), Non-Communicable Diseases (NCDs) in Developing Countries, pp. 179-208. New York: Nova Science Publishers. ISBN 978-1-61209-996-5.

#### Articles in Peer-reviewed Journals

Abdool Karim, Q., Banegura, A., Cahn, P., Christie, C.D.C., Dintruff, R., Distel, M., Hankins, C., Hellmann, N., Katabira, E., Lehrman, S., Montaner, J., Purdon, S., Rooney, J.F., Wood, R. and Heidari, S. 2011. Asking the right questions: developing evidence-based strategies for treating HIV in women and children. BMC Public Health, 11:388. (9pp)

Abrams, A., Siegfried, N. and Geldenhuys, H.D. 2011. Adolescent experiences in a vaccine trial: A pilot study. SAMJ South African Medical Journal, 101(12): 884-886.

Achkar, J.M., Lawn, S.D., Moosa, M.-.Y.S., Wright, C.A. and Kasprowicz, V. 2011. Adjunctive Tests for Diagnosis of Tuberculosis: Serology, ELISPOT for Site-Specific Lymphocytes, Urinary Lipoarabinomannan, String Test, and Fine Needle Aspiration. Journal of Infectious Diseases, 204: S1130-S1141.

Albertyn, C., van Der Plas, H., Hardie, D.R., Candy, S., Tomoka, T., Lee Pan, E.B. and Heckmann, J.M. 2011. Silent casualties from the measles outbreak in South Africa. SAMJ South African Medical Journal, 101(5): 313-317.

Anandaiah, A., Dheda, K., Keane, J., Koziel, H., Moore, D.A.J. and Patel, N. 2011. Novel Developments in the Epidemic of Human Immunodeficiency Virus and Tuberculosis Coinfection. American Journal of Respiratory and Critical Care Medicine, 183: 987-997.

Anderson, C., Teo, K., Gao, P., Arima, H., Dans, A., Unger, T., Commerford, P.J., Dyal, L., Schumacher, H., Pogue, J., Paolasso, E., Holwerda, N., Chazova, I., Binbrek, A.,

Young, J. and Yusuf, S. 2011. Renin-angitensin sytem blockade and cognitive function in patients at high risk of cardiovascular disease: analysis of data from the ONTARGET and TRANSCEND studies. Lancet Neurology, 10: 43-53.

Anderson, F., Mbatha, S.Z. and Thomson, S.R. 2011. The early management of pancreatitis associated with hypertriglyceridaemia. South African Journal of Surgery, 49(2): 82-84.

Arendse, C.G., Okpechi, I.G. and Swanepoel, C.R. 2011. Acute dialysis in HIV-positive patients in Cape Town, South Africa. Nephrology, 16: 39-44.

Baral, S., Burrell, E., Scheibe, M., Brown, B., Beyrer, C. and Bekker, L. 2011. HIV Risk and Associations of HIV Infection among men who have sex with men in Peri-Urban Cape Town, South Africa. BMC Public Health, 11(766): 1-8.

Barouch, D.H., Kik, S.V., Weverling, G.J., Dilan, R., King, S.L., Maxifield, L.F., Clark, S., Ng'ang'a, D., Brandariz, K.L., Abbink, P., Sanangil, F., de Bruyn, G., Gray, G., Roux, S.M., Bekker, L., Dilraj, A., Kibuuka, H., Robb, M.L., Michael, N.L., Anzala, O., Amornkul, P.N., Gilmour, J., Hural, J., Buchbinder, S.P., Seaman, M.S., Dolin, R., Baden, L.R., Carville, A., Mansfield, K.G., PAU, m. and Goudsmit, J. 2011. International seroepidemiology of adenovirus serotypes 5, 26, 35 and 48 in pediatric and adult populations. Vaccine, 29: 5203-5209.

Bateman, E.D., Harrison, T.M., Quirce, S., Reddel, H.K., Buhl, R., Humbert, M., Jenkins, C., Peterson, S., Ostlund, O., O'Byrne, P., Sears, M.R. and Eriksson, G. 2011. Overall asthma control achieved with budesonide/formoterol maintenance and reliever therapy for patients on different treatment steps. Respiratory Research, 12:38 (11pp)

Bateman, E.D., Kornmann, O., Schmidt, P., Pivovarova, A., Engel, M. and Fabbri, L. 2011. Tiotropium is noninferior to salmeterol in maintaining improved lung infection in B16-Arg/Arg patients with asthma. Journal of Allergy and Clinical Immunology, 128: 315-322.

Bateman, E.D., Rabe, K.F., Calverley, P.M.A., Goehring, U.M., Brose, M., Bredenbroker, D. and Fabbri, L. 2011. Roflumilast with long-acting (beta)2-agonists for COPD: influence of exacerbation history. European Respiratory Journal, 38: 553-560.

Becker, J.V.W., van der Merwe, M., van Brummelen, A.C., Pillay, P., Crampton, B.G., Mmuntlane, E.D., Parkinson, C., van Heerden, F., Crouch, N., Smith, P.J., Mancama, D.T. and Maharaj, V. 2011. In vitro anti-plasmodial activity of Dicoma anomala subsp. gerrardii (Asteraceae): identification of its main active consituent, structure-activity relationship studies and gene expression profiling. Malaria Journal, 10(295): 1-11.

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# DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

HEAD OF DEPARTMENT: PROFESSOR LYNETTE DENNY

# DEPARTMENTAL PROFILE

# **Our Mission Statement**

- To provide high quality care to all women seeking our services
- To foster a climate of intellectual enquiry
- To pursue excellence in research at every level of care
- To help create a world-class African University

The Department of Obstetrics and Gynaecology provides a wide-range of clinical services. It takes care of over 40 000 women who give birth in our services per year, with medium and high-risk patients being managed in our level 2 (Mowbray Maternity Hospital, New Somerset Hospital and Maternity Centre, GSH), and level 3 (Maternity Centre, GSH) facilities by specialists and sub-specialists. In addition, we provide comprehensive general and subspecialist gynaecological care. Outreach is provided locally to level 1 services as well as to level 2 and 3 in the South and East Cape.

The Department has a large under-graduate teaching responsibility, teaching students in all 4 clinical years. Post-graduate teaching comprises interns, community and medical officers, as well as specialist and subspecialist training.

Research is predominantly clinical and largely aligned with our four sub-specialist areas: feto-maternal medicine, gynaecological oncology, reproductive medicine and urogynaecology. Research is conducted at all levels of care and comprises participation in large, international, collaborative trials, cutting edge national research projects, self-initiated local and collaborative studies, as well as smaller individual projects. Several important clinical data bases have been established which provide valuable information in maternal medicine, gynae oncology and reproductive medicine. In addition, our Undergraduate Teaching Unit is actively engaged in education research. Research supervision is provided at the level of MMed and MPhil dissertations and PhD theses to registrars, subspecialist trainees and staff.

# STAFF AND STUDENTS

# Permanent and long-term contract staff

Professors	2
Associate Professors	5
Senior Lecturers	15
Lecturers (including part-time)	30
Postdoctoral and Research Staff	20
Technical and Support Staff	3
Admin and Clerical Staff	7
Total	82

#### **Students**

Doctoral	1
Master's	35
PG Diploma	
Undergraduate	775
Total	811

# RESEARCH STAFF AND RESEARCH EXPERTISE

#### PROFESSOR LYNETTE DENNY

Cervical cancer: prevention in low-resource settings; natural history; precursors in HIV positive women. Other gynaecological cancers: management of endometrial, ovarian cancer and advanced vulval cancer. HPV: prevalence, types; vaccination, DNA typing

# PROFESSOR ZEPHNE VAN DER SPUY

Contraceptive and interceptive development; Polycystic ovary syndrome; Reproductive failure; Endocrine dysfunction in pregnancy; Menopause; Nutrition and reproductive health; Genetics of benign gynaecological conditions.

#### A/PROFESSOR JOHN ANTHONY

Thrombophilia; Eclampsia; Bioethics.

#### A/PROFESSOR SILKE DYER

Infertility: health-services in low-resource settings, psychosocial consequences, quality of life, HIV

# A/PROFESSOR SUSAN FAWCUS

Maternal mortality; Perinatal mortality; Intrapartum asphyxia; Magnesium supplementation in pregnancy; Better Birthing Initiative

# A/PROFESSOR ATHOL KENT

Medical education: Reproducible assessment procedures.

# DR SAADIQA ALLIE

Obstetric hysterectomy; Teenage pregnancy.

#### DR ANNE HORAK

High risk obstetrics; Fetal cardiac abnormalities.

#### DR STEPHEN JEFFERY

Refractory overactive bladder syndrome: treatment, epidemiology; HIV and obstetric pelvic floor trauma; surgical repair of posterior compartment prolapse; interdisciplinary patient care;

#### DR LYNELLE KENNETH

IUCD in HIV pos women

#### DR MUSHI MATJILA

Fetal Anomalies: Antenatal Pyelectasis; The role of Kisspeptin and cognate receptor GPR 54 in placentation; Reproductive endocrinology in normal and abnormal pregnancies.

# DR NOMONDE MBATANI

Uterine sarcomas: outcome of treatment; Treatment outcome and complications of gynaecological malignancy

#### DR VANESSA PERROTT

Medical education

#### DR GREG PETRO

Clinical epidemiology; Haemorrhage and transfusion in the obstetric patient; Termination of pregnancy

#### DR LINDA ROGERS

Vulval cancer, MRI Imaging in endometrial and cervical cancer, optimal management of early stage cervical cancer, outcome of ovarian cancer in developing countries.

#### DR LEANN SCHOEMAN

High-risk obstetrics; Audit of clinical obstetric management; cardiac disease in pregnancy.

#### DR VALENTIN STEFAN

Haemorrhage and transfusion in the obstetric patient

#### DR CHANTAL STEWART

Fetal medicine; Women's expectations of and attitudes to fetal anomaly scans; Preterm labour; Ultrasound screening for risk of pregnancy complications.

# DR HETTA VAN ZYL

Pre-eclampsia, eclampsia and complications; High risk obstetrics; Laparoscopic surgery; Caesarian section: prevalence and outcome.

# DR LINDA WALMSLEY

Infertility: Quality of life, HIV

# CONTACT DETAILS

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# RESEARCH HIGHLIGHTS

- Prof van der Spuy delivered the Prof Gaisford Harrison Memorial Lecture. She also gave an invited presentation at the Canadian Postgraduate Medical Educators Leaders Forum.
- A poster by Veronica Mitchell presenting her research on "Abuse in the Workplace" with University of Cape Town Medical Students to the Association of Medical Education of Europe (AMEE) Conference in Vienna was awarded one of the top prizes at the Conference (see attached picture and pdf).
- Members of the Reproductive Medicine Unit played a key role in establishing SARA, the South African Register of Assisted Reproductive Techniques. ART data for 2009 were voluntarily submitted by 12 ART centres, anonymised, pooled and analysed. The 1st report of the register was submitted to participating centres and has been accepted for publication in the SAMJ.
- Professor Denny completed the first randomised trial of the safety and immunogenicity of the bivalent HPV vaccine in HIV positive women aged 18 – 25 years.
- Her group also concluded a prospective multicountry study of HPV genotypes in women diagnosed with invasive cervical cancer from Nigeria, Ghana and 5 sites in South Africa

# RESEARCH OUTPUT

# **Articles in Peer-reviewed Journals**

Adam, A., Jeffery, S., Adam, A., De Jong, P.R. and Arieff, Y. 2011. Do urologists and gynaecologists manage posterior compartment prolapse differently? SAJOG-South African Journal Of Obstetrics And Gynaecology, 17(1): 4-8.

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# PRIMARY HEALTH CARE DIRECTORATE

DIRECTOR/CHAIR: PROF STEVE REID

# DIRECTORATE PROFILE

#### **Vision**

A Health Science Faculty that promotes equity and quality in health care, guided by the Primary Health Care Approach

### Aim

To promote the primary health care approach in teaching, research, policy, health services and community engagement by the Faculty of Health Sciences

#### **Objectives**

- To integrate a Primary Health Care Approach into the Faculty of Health Sciences undergraduate and postgraduate curriculae
- To extend and develop the Faculty of Health Sciences clinical teaching platform in rural and primary care sites
- To deepen community engagement within the health service and the Faculty of Health Sciences curriculae
- To enhance the recruitment and support of students of rural origin in the Faculty of Health Sciences
- To increase inter-disciplinary research in health sciences

#### Mission

To promote equitable, comprehensive, compassionate and quality care at all levels of the health system by means of:

- the recognition of diversity and culture
- evidence-based practice and policy
- active health promotion
- community-based education
- strategic partnerships

# DIRECTORATE STATISTICS

# Permanent and long-term contract staff

Professors	1
Senior Lecturers	2
Lecturer	1
Assistant Lecturer	1
Honorary Lecturers	4
Junior Research Officer	1
Recruitment Officer: Rural Students	1
Site Facilitators	3
Site Coordinators	4
NGO Facilitators	2
Health Teaching Platform Coordinator	1
Facility Manager	1
Admin Staff	2
Total	24

# RESEARCH FIELDS AND STAFF

#### PROF STEVE REID

Chair & Director: primary health care; collaboration for health equity through education and research; compulsory community service; family medicine; rural health; district health systems; community oriented primary care; population based approaches to health; community based education; community-oriented primary care; service learning

#### MR JAMES IRLAM

Senior Lecturer: primary health care; evidence-based practice; climate change and health

#### DR LAURAINE VIVIAN

Senior Lecturer: primary health care; medical anthropology; culture, psyche and illness; medical education

#### MRS JOHANNAH KEIKELAME

Lecturer: primary health care; health promotion; community needs assessment

#### MRS SARAH CRAWFORD-BROWNE

Assistant Lecturer: primary health care; culture, psyche and illness; psychological trauma; community based mental health programming

#### MRS CLAUDIA NAIDU

Junior Research Officer: collaboration of health equity through education and research; social accountability

# **CONTACT DETAILS**

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# **RESEARCH OUTPUT**

#### **Articles in Peer-reviewed Journals**

Fatti, G., Bock, P., Eley, B., Mothibi, E. and Grimwood, A. 2011. Temporal trends in baseline characteristics and treatment outcomes of children starting antiretroviral treatment: An analysis in four provinces in South Africa, 2004-2009. Jaids-Journal of Acquired Immune Deficiency Syndromes, 58(3): e60-e67.

Fatti, G.L., Bock, P., Grimwood, A. and Eley, B.S. 2010. Increased vulnerability of rural children on antiretroviral therapy attending public health facilities in South Africa: a

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# DEPARTMENT OF PSYCHIATRY AND MENTAL HEALTH

HEAD OF DEPARTMENT: PROFESSOR DAN J. STEIN

# DEPARTMENTAL PROFILE

The Department of Psychiatry and Mental Health is strongly committed to strengthening the integration between services, teaching, and research. Clinicians in each of the Divisions of the Department (addiction psychiatry/psychology, child and adolescent psychiatry/ psychology, consultation-liaison psychiatry/psychology, forensic psychiatry/psychology, general hospital psychiatry/psychiatric intensive care, intellectual disability, psychotherapy/neuroclinic, neuropsychiatry, psychopharmacology, and public and community mental health) are active in research in their particular areas. Thus clinical research in the Department covers key clinical problems that are relevant in the South African context, including behavioural and neuropsychiatric aspects of HIV/AIDS, substance use disorders (including fetal alcohol spectrum disorder), adolescent risk-taking behaviour, posttraumatic stress disorder, and mental health policy and services.

In addition, the Department plays a key role in several cross-departmental and cross-institutional research initiatives:

- The Brain-Behaviour Initiative (BBI) is one of UCT's signature themes. The initial focus of the BBI was on trauma, but it has extended to include neuroHIV and substance use disorders. More details of the aims, methods, and partners, are available at - http://www. psychiatry.uct.ac.za/cubbi
- The Adolescent Health Research Unit is examining adolescent risk-taking behaviour, predictors of school dropout, and violence in intimate adolescent relationships. Data analysis is in progress for two large school-based cluster randomised control trials of AIDS prevention.
- The Alan J Flisher Public Mental Health Centre addresses a range of questions in mental health policy and implementation science, and offers advanced training in public mental health.

# **DEPARTMENTAL STATISTICS**

# Permanent and long-term contract staff

Professors	3
Emeritus Professors	5
Associate Professors	4
Senior Lecturers	35
Lecturers	9
Research Staff	35
Administrative and Clerical Staff	5
Total	96

# **Honorary Staff**

Lecturers	8
Senior Lecturers	2
Professors	4
Total	14

### **Students**

Postdoctoral / Clinical Research Fellows	6
Doctoral	11
Master's	33
Total	50

# RESEARCH FIELDS AND STAFF

# Addiction Psychiatry/Psychology

Substance use in psychosis (Henk Temmingh), Substance use and anxiety disorders (Don Wilson); Interventions (Katherine Sorsdahl)

# Child and Adolescent Psychiatry/Psychology

Adolescent risk behaviour (Cathy Mathews), infant mental health (Astrid Berg), evaluation of peer education interventions among adolescents (Sandra de Jager, Kathryn Pahl), partner violence prevention among adolescents (Chantel LeFleur-Bellerose, Anik Gevers), autism and pervasive development disorders (Petrus de Vries).

### Consultation-Liaison Psychiatry/Psychology

Women's mental health, stress and pregnancy (Bavanisha Vythilingum), liaison psychiatry and HIV (Jackie Hoare and Kerry Louw)

# Forensic Psychiatry/Psychology

Mentally ill offenders and femicide (Sean Kaliski and Tania Swart).

#### **General Psychiatry / Psychiatricl Intensive Care**

Social inclusion (Pete Milligan), bipolar disorder (Neil Horn), phenomenology of psychosis ( (Henk Temmingh).

# **Intellectual Disability**

Fetal alcohol spectrum disorder (FASD) neurobehaviour and brain imaging (Colleen Adnams)

# **Psychotherapy**

Intimate partner violence (Adele Marais)

#### **Neuropsychiatry**

Neurocognitive disorders and neuropsychiatry of HIV, brain imaging and HIV (John Joska; Carla Freeman), ARV initiation and adherence (John Joska and Kevin Stoloff)

# **Psychopharmacology**

Pharmacological MRI, Evidence-based psychopharmacology (Dan Stein, Taryn Amos)

### **Public and Community Mental Health**

Mental health policy and services (Crick Lund), Green psychiatry (John Parker)

# **CONTACT DETAILS**

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#### RESEARCH OUTPUT

# Chapters in books

Cluver, L., Operario, D., Gardner, F. and Boyes, M. 2011. A Family Disease: Mental Health of Children Orphaned by AIDS and Living with HIV+ Caregivers. In H. Fitzgerald, K.Puura, M.Tomlinson and P.Campbell (eds), International Perspectives on Children and Mental Health. Volume 1. United States of America: ABC-CLIO Inc. ISBN 978-0-313-38298-7.

#### **Articles in Peer-reviewed Journals**

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Bird, P., Omar, M., Doku, V., Lund, C., Nsereko, J.R., Mwanza, J. and Flisher, A.J. 2011. Increasing the priority of mental health in Africa: findings from qualitative research in Ghana, South Africa, Uganda and Zambia. Health Policy and Planning, 26: 357-365.

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Joska, J., Hoare, J., Stein, D.J. and Flisher, A.J. 2011. The neurobiology of HIV dementia: implications for practice in South Africa. African Journal of Psychiatry, 14: 17-22.

Joska, J., Westgarth-Taylor, J., Hoare, J., Thomas, K., Paul, R., Myer, L. and Stein, D.J. 2011. Validity of the International HIV Dementia Scalein South Africa. AIDS Patient Care and STDs, 25(2): 95-101.

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Myers, B., van Heerden, M.S., Grimsrud, A.T., Myer, L., Williams, D.R. and Stein, D.J. 2011. Prevalence and correlates of atypical patterns of drug use progression: findings from the South African Stress and Health Study. African Journal of Psychiatry, 14: 38-44.

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# SCHOOL OF PUBLIC HEALTH AND FAMILY MEDICINE

DIRECTOR: PROFESSOR LESLIE LONDON
DEPUTY DIRECTOR: ASSOCIATE PROFESSOR DEREK

**HELLENBERG** 

DEPUTY HEAD FOR PUBLIC HEALTH: PROFESSOR

MOHAMED JEEBHAY

## SCHOOL PROFILE

The School of Public Health and Family Medicine is a strong multidisciplinary department in the Faculty of Health Sciences at the University of Cape Town. Its teaching, research and service extend to a wide range of settings and content areas consistent with the evolving disciplines of Public Health and Family Medicine.

The School is currently comprised of two Divisions – the Division of Public Health and the Division of Family Medicine, but discussions are underway following a response to its 2009 departmental review to re-align its organisational design.

The Division of Public Health has a wide variety of service, policy, research and training activities. A focus continues to be the training of Master's graduates in public health, as well as public health medicine and occupational medical specialists. Along with a postgraduate diploma in health management, and post-graduate qualifications in Health Economics, these programmes train a wide range of public health professionals for consultant and leadership roles in the public sector. Public Health registrars are placed at the Provincial Health Department Head Office. in its programmes directorate and in the various districts as well as providing support to the Chief Directorate for Strategy and Health Support, while Occupational Medicine registrars provide services in a range of tertiary clinics. The WorkHealth Occupational Diseases Clinic at GSH, a joint enterprise with the Respiratory Unit, is the only public sector occupational diseases clinic in the Western Cape and one of three in the country.

The Division of Family Medicine, headed by Assoc. Prof. Derek Hellenberg, has as its focus the training of primary level medical practitioners (family physicians) in the health (public) sector. It houses the pioneering South African programme in Palliative Medicine. The Division has staff on the joint establishment (with the PGWC Health Department) who have clinical, teaching and clinical governance responsibilities at a number of Community Health Centres and District Hospitals. The Division began training Family Medicine registrars in February 2008, after family medicine was recognized as a specialty by the Health Professions Council of South Africa (HPCSA).

## **Teaching**

The School runs a very large postgraduate programme, including 5 postgraduate diplomas, 4 Master's programmes, 4 professional Master's programmes and a PhD programme. In 2011, there were 394 postgraduate students in the School including 20 PhD students. Eightyeight postgraduate students graduated in 2011, including 6 PhDs, 37 Master's and 45 postgraduate diploma students.

The Advanced Diploma in Health Management, also known as the Oliver Tambo Fellowship Programme, continued to graduate senior health managers from around the country under its new configuration as a joint programme offered with the Graduate School of Business. The MPH continues to operate as the largest taught Master's programme in the Faculty, and expanded its intake substantially. We had 187 applicants to the programme in 2011, of whom 60 (32%) were accepted. This is a decrease in the figure for the 2010 intake of 177 applicants and 65 acceptees (37%). There were 8 candidates on the clinical research stream of the MPH aimed at hospital-based clinician-researchers, which commenced in 2010. Of the 60 students accepted onto the MPH. 7 from SADC countries. 8 were students from non-SADC countries and 6 were other international students.

The School is also playing an increasing role in the new undergraduate medical curriculum with the aim of producing medical professionals able to function effectively at the primary care level and imbued with an understanding of public health. Public Health and Health Promotion training to undergraduates take place in community-based settings and has been instrumental in pioneering community-placements for MB ChB students at UCT. A number of initiatives are underway to develop off-campus teaching sites linked to Community Health Centres and district hospitals. The Family Medicine division has been closely involved in supporting the new student learning centre at Vanguard Community Health Centre and the rural teaching venue at Vrendenburg. It has also been central to innovations regarding language skills in courses teaching undergraduates professionalism for which it won a PAN South African Language Board award in 2011.

#### Research - overview

There are four URC-accredited research entities within the School, residing under the Public Health Division: Health Economics, Infectious Disease Epidemiology, Women's Health Research and Occupational and Environmental Health Research, as well as growing activities in Health Policy and Health Systems Studies and in Health and Human Rights. Research outputs in 2011 included 139 peer-reviewed journal publications, 1 book and 6 book chapters. Total research grant and contract income to the School was R 27,784,359 in 2011.

Further, in addition to subsidy-attracting publications, academic staff produce a number of technical and policy papers, which do not necessarily find their way into peer reviewed journals, but which are integral to the department's advocacy and service mission, reflecting the School's strong social responsiveness profile in research and scholarly activity.

The School's research mission is reflected in the wide range of research areas and entities in the School and the department's research outputs are notable for their multidisciplinary perspective. In infectious diseases and women's health, publications cover childhood and adult tuberculosis prevention, diagnosis and treatment; HIV risk factors, treatment outcomes, adherence and mortality; adolescent risk behaviour and educational interventions; economic analysis of tuberculosis and malaria treatment; HPV vaccination and cervical cancer prevention and health systems aspects of care related to TB and HIV. The integration of human rights considerations into public health policy and health systems practice receives attention in a number of publications, including experiences of the Deaf and dual loyalties among health professionals. The department continues its pre-eminent role in occupational and environmental health research with investigations into occupational allergy, pesticides, hazardous metals and lung disease due to mineral dust. Finally, the question of equity of resource allocation in health, and particularly in primary health care, continues to occupy researchers in health economics, who remain the leading South African source of peer-reviewed publications in this field. The School has 4 NRF-rated researchers, including Prof Mohamed Jeebhay, re-rated at B3 and Prof Lucy Gilson, re-rated at B1.

The School also made its second award of the David Bourne prize for the best student in the MPH programme to Phiona Namale. The prize commemorates David Bourne, a demographer in the School who died in 2009, and who death left a huge gap in the HIV research world.

## **Division of Family Medicine**

The mission of the Division of Family Medicine is to graduate doctors who are able to enter their internship and community service years with the appropriate level of confidence and competence when diagnosing and managing common primary care problems. They are able to function fully in the PHC team, and able to take the lead in district-based health care, teaching and research in any community setting in South and Southern Africa.

Our postgraduate students enrolled for the M Fam Med, M Med (Fam Med), and M Phil (Pall Med) degrees are all required to complete a research dissertation.

Research projects in progress include:

- early screening and brief motivational interviewing studies of substance abuse and HIV risk behaviours in Cape Town primary health care service users (SA-USA)
- annual chronic care audits of hypertension and diabetes mellitus at Community Health Centres in Cape Town,
- Community situational analysis in the Mitchell's Plain sub-district completed in December 2011,
- Identifying factors that support improved outcomes for HIV+ve patients with low CD4 counts
- brief motivational interviewing to improve adherence to ARV treatment (SA-USA)
- assessing the extent of social accountability in health science teaching, service and research.(TUFH)
- Ensuring core outcomes for palliative care interventions in sub-saharan Africa (completed in 2010),
- evaluation of the value of early clinical exposure for improving medical students' understanding of the primary health care approach, Partner in Southern Africa Twinning project,
- The utility of Language learning during the BaDr course as applied in the workplace: A survey of the first five cohort of graduates from the new curriculum
- Factors contributing to the variation in prescription Costs and its association with the quality of care for diabetes mellitus and hypertension at PHC facilities in the Western Metro of Cape Town
- Measuring primary care delivery in Cape Town using a validated instrument – The Primary Care Assessment Tool (PCAT Cape Town Study)
- Cervical screening audit of CHC's in Metro West of Cape Town
- Treatment and Outcomes in Palliative Care: a randomized control trial
- How is Palliative Care part of the Right to Health? SA evidence
- An exploration of the use of communication skills by medical practitioners in assisting their patients from curative to palliative care
- The Palliative Medicine arm has a strong postgraduate training programme which attracts students from diverse African and other countries.
- In addition, the Division has Professor Richard Harding from King's College, London as a Visiting Professor for the past year and he stays until October 2012. He is involved in many international research projects and has stimulated "research thinking" in the Division

## Centre for Occupational and Environmental Health Research (COEHR)

The Centre's aim is to be a principal centre of OEH research, teaching and training, occupational medical clinical services, policy advisory, technical consultancy services, advocacy and a source of supportive outreach activities in South Africa, in the Southern and Eastern regions of Africa, Africa more generally, and internationally.

The major objectives of the Centre are firstly, to conduct multidisciplinary research, teaching and service provision of high priority in Southern Africa. integrating laboratory, clinical, epidemiological and policy skills. Another key objective is to explore and develop means of maintaining the health of workers and environmentally exposed communities. A third objective is to conduct policy research into issues ranging from toxic or injurious exposures through to health surveillance. Fostering interinstitutional research, teaching and service (including outreach) collaboration and capacity development constitutes another major objective. Finally, another aim is to foster local and global networks for occupational and environmental health promotion through collaboration with United Nations and other agencies.

## **Key research projects**

Key research areas for the Centre currently include the identification of risk factors and evaluating preventive approaches for allergens and asthma in the workplace, health hazards of chemicals (such as pesticides and endocrine disruptors) and silicosis elimination in gold miners. Workforces that are of particular relevance for the Centre's work include health care workers, with a specific focus on studying the determinants of TB infection and diagnostic approaches in order to prevent the spread of TB related to the HIV epidemic. Other vulnerable groups include agricultural workers (for whom injuries and pesticide-related asthma and neurotoxicity are a problem) and mine worker's (at high risk of developing pneumoconioses and TB). Environmental risks for workers and communities exposed to metals, such as manganese and arsenic, and other chemicals in the working and residential environments are assessed and monitored. More recently climate change and its impact on occupational and general health has become a focus linked to the UCT African Climate and Development Initiative. These areas are supplemented by a broader focus on research to address occupational and environmental health systems and worker's compensation, as well as developing programmes to build OHS capacity through research and training in the SADC region. Through the Fogarty International Centre International Training and Research in Environmental and Occupational Health (ITREOH)

and the Millemium Promise Programme (MPP) for non communicable chronic diseases.

The COEHR is one of only two WHO collaborating Centres in occupational health on the African continent, contributing to the global research agenda. The past year also saw the nomination of another member, Prof Mohamed Jeebhay as Fellow to the Collegium Ramazzini. He joins Professors Jonny Myers, Leslie London and Rodney Ehrlich, other staff of COEHR, belonging to this global organization of 180 fellows whose mission is to advance the study of occupational and environmental health issues and act as a bridge between the world of scientific discovery and the social and political centers, which must act on the discoveries of science to protect public health. The past year also saw Prof Jeebhay delivering his inaugural address as full professor in the SOPHFM. In 2011 COEHR researchers were invited to join an international consortium of agricultural health studies called AGRICOH. Leslie London and Jonny Myers were awarded the honour of hosting the 12th International Symposium on Neurobehavioral Methods and Effects in Occupational and Environmental Health scheduled for 2013 in Cape Town.

## **Health Risk Management Programme**

The Health Risk Management Programme (HRMP) within the COEHR conducts research, capacity building (teaching/training and networking), social responsiveness, and develops risk communication materials in the area of pesticides and chemical risk management and reduction. The HRMP research focuses on the silent public and environmental health problem of informal vendors selling agricultural pesticides for household pest control, child poisonings from street pesticides; occupational herbicide exposures of community workers removing alien vegetation in the Working for Water programme, and developing risk communication tools for low-literacy populations and health professionals. These research projects involve engagement with NGOs, community leaders/members, national, provincial and municipal government departments (health, agriculture and water affairs). Capacity building, particularly of African and other developing country pesticide regulators, involves information sharing of research findings and policy relevant information through UCT's internet based educational platform - Vula. The HRMP established electronic list servers, an on-line discussion forum and a new Post Graduate Programme (Diploma and Professional Master's) in Pesticide Risk Management continues to strengthen. The African Pesticide Regulators bi-monthly on-line discussion forum continues to be an innovative approach to information dissemination to government officials tasked with regulating pesticides and post graduate students as well as providing a becoming a successful networking examples for others. The post graduate diploma in

pesticide risk management is structured around the United Nations Code of Conduct on the Distribution and Use of Pesticides and has been developed in conjunction with the United Nations Food and Agricultural Organizations. The first 17 students from all over Africa, Figi and St. Lucia plan to graduate in 2012. The second intake represent South Africa, Eritrea, Nigeria, Zambia, Tanzania, Zimbabwe and Swaziland.

A broad range of students have actively participated in research projects in the H HRMP both from the Health Sciences Faculty (SSM, 4th year blocks, MPH, PhD) and anthropology (undergraduate, honours and master's). Students have developed risk communication tools, and presented findings at conferences and to health professionals (e.g., Environmental Health Professionals and Community Health Promoters).

The HRMP also develops a range of risk communication materials, algorithm, and policy briefs based on research findings. These mediums are used in order to disseminate and translate research findings for a broad range of stakeholders. In 2011, the Head of HRMP, Dr. Hanna-Andrea Rother, was nominated as a WHO panel expert for the FAO/WHO Joint Meeting on Pesticide Management (JMPM).

## Industrial Health Resource Group (IHRG)

Within the COEHR, the Industrial Health Resource Group (IHRG) operates as an action research and socially responsive development group, providing occupational health and safety research, curriculum development, training, advice, and resource development services for trade unions and their members. The work of IHRG is guided by a vision of building the capacity of trade unions and their members to independently monitor, enforce, defend and advance the workplace health and safety rights of workers.

IHRG does representation, investigative and advocacy work for workers and trade unions in relation to workplace health and safety incidents and cases of work-related injury and disease. In this regard, IHRG engages with Department of Labour's (DoL) Compensation Commissioner and the Health and Safety Inspectorate, as well as with the Public Protector. Important experiences during 2011 and 2012 include IHRG working with Cosatu to engage the Department of Labour and the NPA on the DoL recommendations for prosecutions following their findings of employer negligence in Section 31 investigations and a 32 formal enquiry; the submission of a Section 91 appeal; and Section 56 applications to the Compensation Commissioner for increased compensation due to employer negligence. IHRG continues to engage the Compensation Commissioner on an incomplete Section 56 hearing which remains unresolved since 2011. IHRG assisted several trade unions with injury cases.

Notable cases include exploring the compensation rights of labour broker workers injured in an underground tank fire; engaging the DoL on unreported cases; responding to requests for assistance on compensation claims and access to medical surveillance information from large groups of organised unemployed workers (ex-Mineworkers and ex-employees exposed to asbestos). IHRG continues to work closely with the labour federation Cosatu around cases concerning temporary total disability payments and permanent disability awards. IHRG supports workers with medical referrals to occupational health practitioners, medical specialists, occupational therapists and psychologists in the process of securing medical care and evidence in determining whether health problems are work-related.

IHRG plays an advocacy role within a national, regional and global context of deregulation, outsourcing and casualisation of labour - trends which enable public and private sector employers to avoid responsibility for workplace health and safety. In this regard, IHRG is collaborating with the Federatie Nederlandse Vakbeweging and its South African partners in a campaign for decent work that is directed particularly at vulnerable workers. Our work with vulnerable workers currently includes contract cleaning workers, community health care workers, workers who have been injured or made sick by their work, labour broker and sub-contracted workers, and farm workers. Our advocacy work includes issues relating to the administration, enforcement and the amendment of the OH&S legislation, and interpreting the role of trade union representatives in monitoring employer compliance with labour laws relating to OH&S.

IHRG works in partnership with trade unions in a variety of programmes. During 2011and 2012 IHRG has been involved with Naledi and Satawu in a project that looks at the working conditions, organisational rights and health and safety issues in the contract cleaning sector. Training workshops and participatory action research projects have been carried out with contract cleaning workers at OR Tambo airport. IHRG has also continued its partnership with Numsa and the German trade union confederation DGB-BW, to build the capacity of Numsa shop stewards and organisers to engage with German multi-national companies in the negotiation of workplace level organisational rights agreements including Health and Safety Agreements with their employers.

IHRG collaborates locally, nationally, regionally and globally with other labour service organisations, non-governmental organisations, adult educationists, occupational health experts, various academic programmes, and health research institutions. During 2011 and 2012, IHRG collaborated with - amongst others - Public Services International, Frederick Ebert Stiftung, Federatie Nederlandse Beweging, Deutscher Gewerkschaftsbund, Naledi, Ditsela, Workers World Media Productions,

Legal Resources Centre, Labour and Enterprise Policy Research Group and the Department of Occupational and Environmental Health at UKZN. IHRG also engaged with the DoL nationally and provincially around the access to DoL information (reports on injury and disease statistics and prohibition notices). We are working with an independent lawyer in taking up a case regarding families' rights to access the DoL reports submitted to the NPA in relation to work-related fatalities.

Research activity of IHRG has contributed towards the production and distribution of a variety of popular and accessible resources (including posters, newsletters, research reports, training workshop materials, and handbooks) for trade unions and their members on issues of occupational health and safety. IHRG contributes to health and safety and labour programmes on radio and television. IHRG's website is www.ihrg.org.za.

## Centre for Infectious Disease Epidemiology and Research (CIDER)

The Centre for Infectious Disease Epidemiology and Research (CIDER) is a multi-disciplinary research group with the following objectives:

- To conduct public health research integrating laboratory, clinical, epidemiological, social science and health systems research into infectious diseases that have high priority in southern Africa (in particular HIV, tuberculosis and sexually transmitted infections) in order to improve the prevention and management of these diseases.
- To be a service-led research entity, maintaining very strong links with health services at all levels, and to assist policy makers, programme and services managers with the implementation of the results of research.
- To be a centre of expertise in the surveillance and monitoring of infectious diseases and infectious disease programmes and services, and in the conduct of robust observational research based on routine data sources.
- To provide postgraduate teaching and supervision in epidemiology.

The Centre has a strong track record in researching strategies for HIV prevention. Historically the Centre ran field sites for two large multicentre HIV prevention trials, one for a candidate vaginal microbicide, and the other testing the efficacy of twice daily acyclovir suppressive therapy in preventing HIV transmission among heterosexual HIV-discordant couples in which the HIV-infected partner is Herpes Simplex Virus-2 seropositive. Furthering the focus on HIV prevention the Centre is developing tools and indicators for measuring and evaluating PMTCT programmes in resource limited settings, and is testing novel service strategies for further improving the effectiveness of PMTCT interventions.

A further focus of the work of the Centre is in the area of treatment and service delivery for HIV and tuberculosis. This encompasses an expanding portfolio of health systems research as well as the clinical epidemiology of treatment interventions in individual cohorts. Health system projects have focussed on the use of lay health workers and community-based care, and the integration of TB and HIV services in the Western Cape, Free State and Gauteng. A major strength of the Centre is cohort studies of patients receiving antiretroviral therapy. This includes work with individual cohorts in Khayelitsha and Gugulethu, through to running an NIH-funded data centre for collaborative cohort research combining data from 14 cohorts in South Africa.

The Centre has an excellent working relationship with the Provincial Department of Health, with staff supporting the conduct and analysis of the annual antenatal HIV seroprevalence survey, the development and maintenance of information systems to monitor HIV programmes, and assistance with infectious disease surveillance and outbreak investigations. The work on context-appropriate information systems for HIV programmes has led to further collaborations nationally, regionally and with the World Health Organization.

The Centre has a strong multidisciplinary team of PhD scientists and continues to be a significant resource for epidemiology, biostatistics, infectious disease modelling and qualitative research support within the Faculty. There are active collaborations with a range of clinical and laboratory departments, including with the Departments of Psychiatry and Mental Health, Virology, Obstetrics and Gynaecology, Child and Adolescent Health, and Medicine.

## Women's Health Research Unit (WHRU)

The WHRU enjoys local, national and international research standing especially in the areas of sexual and reproductive health and gender issues. The Unit is involved in research, teaching, technical health service support, and advocacy in the area of women's health. It is made up of a multidisciplinary team of researchers with expertise in public health, epidemiology, psychology, sociology and anthropology. Focus on women's health and on gender and health is aligned with local and global challenges in addressing the health needs of women.

The Unit's research focus can be summarised into three thematic areas: Socio- behavioural research; health services operational research and quantitative/ epidemiological research.

The Women's Health Research Unit continued its research work in the field of women's reproductive health. Notable achievements and activities in 2011 included:

- Two senior staff members obtained their PhDs and one junior staff member obtained her MPH.
- NRF postdoctoral research fellow
- A wide range of research collaborators and other visitors visited the Unit and included Dr Grossman from Ibis Reproductive Health, USA, Dr Joanne Mantell, HIV Center, Columbia University, USA and Dr Glen Wagner, RAND Corporation, Non-profit Research Policy Institute, Santa Monica, California, USA.
- The Unit also continued to host a study abroad programme from New York University in collaboration with Prof Sally Guttmacher, Professor of Public Health and Director of Master's in Public Health Program in Community Health, New York University.
- Continued to teach on the Stanford University Overseas Study Program on Public and Community Health in Sub-Saharan Africa.
- Continued to host the Global Doctors For Choice program in Africa
- We have been successful in securing funding from the WHO for two studies, one exploring ways of utilizing innovative methods such as mobile cell phone technology for health messaging and developing and validating a referral toolkit to be used by community health workers to assess women's eligibility for early medical abortion.
- NIH funded collaborative study with Columbia University involving a structural intervention to integrate sexual and reproductive health into HIV care was completed at the end of 2011.
- The Unit has an excellent working relationship with the Provincial and National Departments of Health, with staff forming part of advisory committees on the National Task Team revising the National Contraceptive Guidelines and the National Task team on the implementation of the Cervical Screening
- URC Quality Assurance Review of the WHRU in December 2011. This review was extremely well received with positive feedback.

## **Health Economics Unit (HEU)**

The Health Economics Unit (HEU) conducts research in health economics and health system issues. The HEU maintains a balance between conceptual and applied research as well as between topics of local and international relevance and focuses on three thematic areas of research, namely health systems and health equity research; health financing and the economic evaluation of disease-priority areas.

There are currently a number of projects relating to issues of health financing and the achievement of universal coverage. In addition to this research work, the HEU is active in knowledge translation through the provision of input into the Ministerial Advisory Committee on National Health Insurance and its various sub-committees in South Africa.

A five-year research project (UNITAS – Universal coverage in Tanzania and South Africa: Monitoring and evaluating progress) began in 2011. The UNITAS project will focus on monitoring and evaluating policy formulation and implementation processes aimed at achieving universal health coverage in South Africa and Tanzania. The project will undertake monitoring mainly at the district level, with some monitoring and evaluation at the national level. It aims to support implementation processes and will establish an 'early warning system' of implementation difficulties. It is a collaborative, EU-funded project with 2 other South African institutions, a Tanzanian institution and 2 European institutions.

The Global Network for Health Equity (GHNE) was initiated in 2011 and will enable comparative and collaborative work across three continents to advance equitable universal health coverage. It draws on 3 existing networks: EQUITAP (Equity in Asia-Pacific Health systems, an Asia-Pacific Research Partnership); LANET (The Latin American and Caribbean Research Network on Financial Protection and Health Observatory); SHIELD (Strategies for Health Insurance for Equity in Less Developed Countries, an African network that the HEU co-ordinates). It is funded by the IDRC.

The HEU is supporting work being undertaken in Kenya, Uganda and Zambia that is critically evaluating patterns of health care financing and benefits from the use of health services, to provide an evidence base for promoting equitable health systems in these countries. The project was implemented in 2010 and will continue until 2012 with funding by the International Development Research Centre (IDRC) for Uganda and Zambia; and funding for Kenya from the Wellcome Trust. The HEU is working with the following partners on this project: the Kenyan Medical Research Institute, HealthNet Consult in Uganda and the Department of Economics at the University of Zambia. The main role of the HEU is to provide research and technical support.

The DST/National Research Foundation South African Research Chairholder in Health and Wealth focuses on the inter-play of health and wealth in the South African context and the impact of a range of government policies on health. Researchers contextualised the social determinants of health within an African context to increase awareness about this issue and to take into account health equity issues to address the root causes of socioeconomic health inequalities. Another key area of research relates to providing a strong evidence base to contribute to current policy debates on health care financing reform. The Chair will run until 2012 in this current phase.

The Researching Equity in Access to Health Care (REACH) project, initiated in 2007, focuses on how health systems could contribute more effectively to achieving development

goals by actively promoting equitable access to health care. This is being explored through the case of South Africa's health system, focusing on three tracer health interventions of particular relevance to the Millennium Development Goals (MDGs) and which are crucial to addressing the burden of ill-health in South Africa. The tracers are maternal health services, tuberculosis and HIV care. The HEU collaborates with the Centre for Health Policy at the University of Witwatersrand, the Africa Centre at the University of KwaZulu-Natal and McMaster University in Canada and the project will run until the middle of 2012.

In the area of economic evaluation, the HEU is involved in the EXTEND study funded by the Gates Foundation. The aim of this study is to evaluate the impact and cost-effectiveness of Xpert MTB/RIF in the investigation of TB and its impact on patient and programme outcomes and transmission at a population level, and thus inform policy on the scale up of Xpert MTB/RIF in low- and middle-income countries. The project is led by the Aurum Institute in partnership with the National Health Laboratory Services, National Department of Health, University of Cape Town, London School of Hygiene and Tropical Medicine and the World Health Organisation.

Resilient and Responsive Health Systems (RESYST) is a consortium that is undertaking health policy and systems research (with a focus on financing, health workers and governance) in a set of African and Asian settings, including India, Kenya, Nigeria, South Africa, Thailand, Tanzania and Vietnam. Funded by DfID, the consortium began in 2011 and will run until 2016.

Coordination work for EQUINET (Regional Network for Equity in Health in East and Southern Africa) continued in 2010 around equitable financing of health systems and equitable allocation of health care resources in a range of East and Southern African countries.

A project on public engagement in health care systems change in South Africa continued in 2011. It was launched by Black Sash in collaboration with the HEU and Health-e. During 2011, the HEU undertook a discrete choice experiment (DCE) to elicit the community's preferences in health care delivery. The results of the DCE study will contribute to the design of policy for health system change in South Africa.

## **Health Policy and Systems**

The Health Policy and Systems (HPS) programme encompasses a range of activities aiming to build this area of work through teaching, research and networking within and outside the SOPHFM.

The particular focus of work is health policy analysis and health systems research. Current activities include post

graduate teaching in the field within UCT, engagement with a network to support capacity development for health policy and systems research/analysis within African universities, and research in the field.

In 2011, work began within an eleven partner Africa-Europe network to support curriculum development, staff development for research and teaching and engagement with policy makers around health policy and systems analysis. This new network (CHEPSAA, the Consortium for Health Policy and Systems Analysis in Africa) will run for four years and held it first annual meeting in Ghana in May 2011.

HPS research activities in 2011 included, first, continuing work in testing and developing approaches to synthesising health policy analysis material. A series of papers presenting these syntheses are under development.

Second, we continued work within the DIALHS project (district innovation and action learning for health system development), which is being implemented in collaboration with the University of the Western Cape, the Western Cape provincial Department of Health and the City of Cape Town health directorate. This project is working with local managers through a process of action research to address priority planning and management needs, currently within one sub-district of the City of Cape Town. In 2011, DIALHS work included supporting a community profiling exercise to support sub-district health planning processes and the initiation of a study to inform support for primary care facility level leadership and management.

Third, the International Religious Health Assets Programme (IRHAP) (formerly known as the African Religious Health Assets Programme (AHRAP), and based in UCT's Faculty of Humanities) was launched in the School of Public Health and Family Medicine and falls under the HPS programme.

Fourth, a new International Development Research Centre (IDRC) grant was awarded for the Collaboration for Health Systems Analysis and Innovation (CHESAI) project to develop the field of health policy and systems research through activities such as postdoctoral research awards, sabbaticals for practitioner scholars and expert research residencies. The project will be jointly executed by the University of the Western Cape and the University of Cape Town.

## **Health and Human Rights Programme**

The Health and Human Rights Programme undertakes a range of teaching, research and advocacy aimed at helping to build a culture of human rights in South Africa. Its work extends into East and southern Africa. Research areas include the relationship between health equity and human rights; the rights of the Deaf in the health care

system; human rights issues in relation to HIV and the human rights and ethical implications of Dual Loyalties in the health professions. Much of this research takes place through collaboration with human rights non-governmental organizations, other research and training institutions and human rights activists within and outside South Africa. Another focus has been research into core competencies in human rights required by health professionals.

Recent research has begun to explore the role of civil society organisations (CSOs) using human rights approaches to promote health. In particular, the establishment of a Learning Network for Health & Human Rights (LN) with 6 Western Cape CSOs in partnership with Universities of Maastricht, Warwick and Western Cape has provided opportunities to identify best practice for realising health rights. This network draws on a multidisciplinary team of researchers in partnership with CSOs to develop best practice for realising the right to health. A highlight in 2011 was the launch of a toolkit for CSOs on the Right to Health, at which the Deputy Chair of the Human Rights Commission, Dr Pregs Govender, introduced the toolkit. The Programme also has grants to explore different aspects of Knowledge Production in partnership with Community Organisations, all centred around health rights approaches.

## SCHOOL STATISTICS

## Permanent and long-term contract staff

Professors	6
Associate Professors	5
Emeritus Associate Professor	1
Senior Lecturers	14
Lecturers (including part-time)	24
Postdoctoral and Research Staff	63
Facilitators	38
Admin and Clerical Staff	24
Total	174

#### **Students**

Doctoral	20
Master's	238
PG Diploma	142
Undergraduate	1300
Total	1700

## RESEARCH OUTPUT

#### **Authored books**

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## DEPARTMENT OF RADIATION MEDICINE

## **DIVISION OF MEDICAL PHYSICS**

#### HEAD OF DIVISION: MR JAN K HOUGH

## **Divisional profile**

The Division of Medical Physics is responsible to Diagnostic Radiology, Nuclear Medicine and Radiation Oncology for the safe use of ionization radiation. This involves patient dosimetry and treatment, as well as the optimum use and functioning of radiation producing equipment.

Physics training and teaching of staff and postgraduate students in these divisions is undertaken.

The Division of Medical Physics is recognised by the HPCSA as a training centre for Medical Physicists. The Division is involved in International Atomic Energy (IAEA) training programs and the training of interns sponsored by private practices.

We have established a 4 monthly Medical Physics Workshop for all the Medical Physicists in the Western Cape. This includes all the physicists in private practice as well as those at GSH, Tygerberg Hospital and iThemba LABS. Various papers of common interest are presented at these workshops.

The Division of Medical Physics continues to provide Medical Physics services to Nuclear Medicine at Red Cross Hospital. This service has been expanded by our physicist in Nuclear Medicine to regular quality control checks.

Chris Trauernicht will do Monte Carlo simulations of the dose distributions around I-125 seed ophthalmic applicators as part of his PhD thesis.

Hester Burger has much experience in radiosurgery and is heading this service. Her PhD involves the analysis of cognitive deficits as a result of radiosurgery.

## RESEARCH FIELDS AND STAFF

## **Head of Department**

#### JAN HOUGH MPHIL (UCT)

Radiotherapy Treatment Planning

## **Deputy Manager**

#### H. BURGER MSC (MED PHYS) (UP)

Radiosurgery Treatments, Treatment Planning and Radiosurgery

#### **Assistant Managers (Medical Physics):**

#### G MAREE PHD (UCT)

Brachytherapy and Radiation Dosimetry

#### T KOTZE PHD (US)

Diagnostic Radiology teaching and Radiation Protection

## C TRAUERNICHT MSC (MED) IN MEDICAL PHYSICS (UCT)

Nuclear Medicine and Brachytherapy

#### **Technical Staff**

#### **Chief Radiographer**

K BOTHA NAT DIPL RADIOGRAPHY (THERAPY), DIPL COMPUTER SCIENCE

#### **Mould Room**

### **Chief Radiographer**

S TOVEY DIPL. RADIATION TECHNOLOGY, NAT DIPL RADIOGRAPHY (DIAGNOSTIC AND RADIOTHERAPY), BTECH (RADIOGRAPHY RADIOTHERAPY)

## **Intern Radiation Technologist**

M HENDRICKS NAT DIPL RADIOGRAPHY (DIAGNOSTIC)

#### **Mechanical Workshop**

#### **Chief Industrial Technician**

C THOMSON NTCII

#### **Artisan**

RE HISCOCK NIII

#### Secretarial

## Senior Admin Clerk

O KWAYIBA

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## **DIVISION OF NUCLEAR MEDICINE**

#### HEAD OF DIVISION: DR TESSA KOTZE

#### **Divisional Profile**

Nuclear medicine currently provides a wide spectrum of diagnostic procedures, in-vivo studies and therapy; all pertaining to the use of unsealed sources of radioactivity. Procedures cover the central nervous system, respiratory, cardiac, gastrointestinal, genitourinary, endocrine, lymphatic and skeletal systems. There is access to both SPECT and PET/CT. All procedures are integrated into service provision, training and research. In the department is also an osteodensitometer.

#### **Divisional Statistics**

## Permanent and long-term contract staff

## Joint staff (UCT/PGWC)

Senior Consultant Full time 1
Junior Consultant Full time 2
Senior Consultant Part time 1

## RESEARCH FIELDS AND STAFF

### **Specialist Staff**

## DR TESSA KOTZE

Therapy; PET

## DR RACHELLE STEYN

**ERNA** 

## DR MASHA MAHARAJ

HIV and Infection

#### PROF MIKE MANN

Paediatric Nuclear Medicine

## **Undergraduate Staff**

Supernumerary Registrar DR BUSUYI BABALOLA

## **CONTACT DETAILS**

Division of Nuclear Medicine, Groote Schuur Hospital and University of Cape Town, Observatory, 7925 Cape Town.

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## DIVISION OF RADIATION ONCOLOGY

#### HEAD OF DIVISION - PROFESSOR R P ABRATT

## **Divisional profile**

- 1. The Division of Radiation Oncology provides the following services:
  - 1.1 Investigation, management and treatment of all forms of malignant disease. This is co-ordinated by 23 multidisciplinary clinics, which meet weekly.
  - 1.2 Participation in clinical studies, both investigator initiated and as part of co-operative groups.
- Teaching of undergraduate medical courses and provision of post graduate specialists training courses.
   Pre and post-diplomate instruction to radiographers and post-diplomate courses to nurses. Full training in Radiobiology from under-graduate to honours, master's and doctoral level.
- 3. Provision of a comprehensive clinical radiobiological research facility.

## **DIVISIONAL STATISTICS**

## Permanent and long-term contract staff

#### JMS Staff

1 101693019
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## **University staff**

Research Staff	6
Administrative/Clerical Staff	1
Subtotal	7

## Joint staff (UCT/PAWC)

Head of Clinical Unit	1
Senior Full-time Lecturers	3
Lecturers	3
Principal Medical Officers	1
Sessional Medical Officers	3
Medical Officer	1
Medical Scientists	2
Subtotal	15

#### **Honorary staff**

Honorary Lecturers	3	13
Total		1

#### Postgraduate students

Registrars	16
Total	16

## RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

## **Specialist Staff**

#### PROFESSOR RAYMOND ABRATT

Chief Specialist Radiation Oncology & Head of Division; NRF Rated – Category B

#### DR JEANETTE PARKES

Senior Specialist Radiation Oncology and Senior Lecturer; Main interests - neurological tumours, paediatric tumours, bones and sarcoma

#### DR SAMEERA DALVIE

Specialist Radiation Oncology Lung Cancer; Male genitourinary tract cancer, Ear, nose and throat cancer

#### DR ZAINAB MOHAMED

Senior Specialist Radiation Oncology and Senior Lecturer; Main interests - Lymphoma, Myeloma, Melanoma, Hodgkin's Disease

#### DR BARBARA ROBERTSON

Specialist Radiation Oncology & Lecturer; Main interests - Thyroid, Oesophageal and Gastro-intestinal cancers, stomach, pancreas, liver, unknown primary cancers.

#### DR LEON VAN WIJK

Senior Specialist Radiation Oncology & Senior Lecturer; Main interests - Gynaecological tumours.

## DR JULIE WETTER

Specialist Radiation Oncology and Lecturer; Main interests – skin cancers, melanoma, eye Head and neck.

#### **Medical Officers**

## DR CINDY SHEPHERD

Principal Medical Officer Radiation Oncology; Main interests - Lung cancer, Tumours of the thyroid, Male genito-urinary tract cancer.

#### DR HEIDE LUSTIG

Medical Officer Radiation Oncology; Interest – Survivorship

#### **Scientific Staff**

#### DR ANDRE HENDRIKSE

Senior Medical Natural Scientist & Lecturer; Main interest - Research in Medical Natural Science Radiobiology (research on tumours with experimental animals)

#### DR ALISTAIR HUNTER

Medical Natural Scientist; Main interest - Research in Medical Natural Science Radiobiology (research on tumours with experimental animals)

#### **Contract Research Staff**

#### Part-time clerical research assistants (data managers)

MRS GLYNIS CHILCOTT

MRS SUE GILES

MISS E NEL

MRS JEAN WILMOT

MRS RAE TAYLOR

## **CONTACT DETAILS**

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## **DIVISION OF RADIOLOGY**

HEAD OF DIVISION: PROFESSOR STEPHEN JAMES BENINGFIELD

#### **Divisional Profile**

The Division of Radiology works closely with clinical colleagues and their patients throughout the hospital, both in service and academic capacities. This collaboration involves all major medical, surgical, therapy and women's health areas, including their subspecialties. The recently acquired multi-slice CT is heavily utilised, especially for vascular and thoraco-abdominal problems. Red Cross is making good use of their new MRI and CT scanners. There is now also some exposure to PET-CT scanning in the private sector. Links to Somerset and GF Jooste Hospitals remain strong, with some teaching activity also at Victoria Hospital. The experience of our post-retirement sessional staff continues to benefit the Division. The impact of the full conversion to digital radiology over the next year is expectantly awaited.

The outcome of the recent implementation of the Occupational Specific Dispensation on the hospital in general has been positive in certain ranks. Interest in supernumerary registrar posts from within and outside the country remains strong.

## **Teaching**

#### **Postgraduate**

This major activity continues, with new inputs from the University, Colleges and the HPCSA having significant roles. More structured teaching, regular assessments and revised examination structure plus obligatory theses are now reality. The division is currently close to the end of an upgrade and complete refurbishment process to convert into a fully digital radiology unit, with the advent of a formal Picture Archival and Communication Systems (PACS) and Radiology Information System (RIS) around the corner. This will have a major beneficial effect on the manner and quality of postgraduate teaching and supervision, both in radiology and other specialties.

## **Undergraduate**

Regular weekly structured teaching sessions continue, with the case-based multidisciplinary meetings in various specialties allowing both under- and post-graduate students to see the impact of imaging on clinical-decision making

#### Research

There are a number of collaborative and self-initiated projects running, with the recent requirement for a thesis or dissertation leading to increased interest. The consequences of digital imaging and newer modalities remain strongly felt, with diversification of interests. These continue to be largely on the basis of combined collaboration and multidisciplinary applied clinical research, together with some basic research that is also being undertaken in MRI and digital mammography. There is a good prospect of a full body 3T MRI being installed soon.

#### **Service**

The increase in service load, particularly on the multislice CT's, are placing an increased demand on reporting time. An attempt is being made to run three CT scanners during the day. The hope is that the PACS will allow more efficient distribution of the resulting reporting work. Close interaction with UCT PAH clinical service adds another aspect to the work undertaken.

#### Social responsiveness

There is ongoing collaboration with a number of the closer satellite hospitals, most notably GF Jooste, New Somerset and Victoria, but also II Military Hospital (with significant recent equipment upgrades), as well as with the newly-developed and refurbished regional hospitals such as George, Worcester and Paarl, Khayelitsha and Mitchells Plain, that are likewise converting to digital imaging and PACS.

#### **Publications**

These are mostly on the basis of close clinical collaboration and applied research, although some more basic MRI and digital radiography research has been published.

## RESEARCH FIELDS AND STAFF

## PROFESSOR STEPHEN BENINGFIELD

Hepatobiliary, vascular, interventive radiology, computer applications and digital radiology.

#### DR NAZIR AHMED

Cross-sectional imaging, colorectal imaging.

#### DR HELEN BALL

Ultrasound, mammography, computerised tomography and urological radiology.

#### DR SALLY CANDY

Neuroradiology and Magnetic Resonance Imaging.

#### DR DILESH CHIBA

Musculoskeletal radiology, cross-sectional imaging, interventive radiology.

#### DR JACQUELINE KIECK

High resolution computerized tomography and fine needle biopsies, interventional radiology.

#### DR TRACY KILBORN

Paediatric radiology.

#### DR ROBERT SEGGIE

Ultrasound, computerised tomography and general radiology.

## DR NICOLE WIESELTHALER

Paediatric radiology.

#### DR E BANDERKER

Paediatric Radiology

### **Divisional Statistics**

#### Permanent and long-term contract staff

## **University staff**

Professor and Head of Division	1
Administrative Staff	1
Total	2

#### JMS Staff

Senior Lecturers	4
Lecturers	
Total	9

#### Part-time JMS Staff

Emeritus Professor	1
Emeritus Associate Professors	2
Total	3

#### **Part-time UCT Staff**

Administrative Assistant	1

#### Students

Master's [registrars]	24

## **CONTACT DETAILS**

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## RESEARCH OUTPUT

#### **Articles in Peer-reviewed Journals**

Abe, O., Abe, R., Enomoto, K., Kikuchi, K., Koyama, H., Masuda, H., Nomura, Y., Ohashi, Y., Sakai, K., Sugimachi, K., Toi, M., Tominaga, T., Uchino, J., Yoshida, M., Haybittle, L., Leonard, C.F., Calais, G., Geraud, P., Collett, V., Davies, C., Delmestri, A., Sayer, J., Harvey, V.J., Holdaway, I.M., Kay, R.G., Mason, B.H., Forbes, J.F., Wilcken, N., Bartsch, R., Dubsky, P., Fesl, C., Fohler, H., Gnant, M., Greil, R., Jakesz, R., Lang, A., Luschin-Ebengreuth, G., Marth, C., Mlineritsch, B., Singer, C.F., Samonigg, H., Steger, G.G., Stoger, H., Canney, P., Yosef, H.M.A., Focan, C., Peek, U., Oates, G.D., Powell, J. and Murray, E.M. 2011. Relevance of breast cancer hormone receptors and other factors to the efficacy of adjuvant tamoxifen: patient-level meta-analysis of randomised trials. Lancet, 378: 771-784.

Albertyn, C., van Der Plas, H., Hardie, D.R., Candy, S., Tomoka, T., Lee Pan, E.B. and Heckmann, J.M. 2011. Silent casualties from the measles outbreak in South Africa. SAMJ South African Medical Journal, 101(5): 313-317.

Andronikou, S., McHugh, K., Abdurahman, N., Khoury, B., Mngomezulu, V., Brant, W.E., Cowan, I., McCulloch, M. and Ford, N. 2011. Paediatric radiology seen from Africa. Part I: providing diagnostic imaging to a young population. Pediatric Radiology, 41: 811-825.

de Boer, R.H., Arrieta, O., Yang, C., Gottfried, M., Chan, V., Raats, J., de Marrinis, F., Abratt, R.P., Wolf, J., Blackhall, F.H., Langmuir, P., Milenkova, T., Read, J. and Vansteenkiste, J.F. 2011. Vandetanib Plus Pemetrexed for the Second-Line Treatment of Advanced Non-Small-Cell Lung Cancer: A Randomized, Double-Blind Phase III Trial. Journal of Clinical Oncology, 2011(29): 1067-1074.

Dunn, R., Zondagh, I. and Candy, S. 2011. Spinal Tuberculosis. Spine, 36(6): 469-73.

Ellchuk, T.N., Shah, L.M., Hewlett, R.H. and Osborn, R.H. 2011. Suspicious neuroimaging pattern of thrombotic microangiopathy. American Journal of Neuroradiology, 32: 734-738.

Frost, M., Krige, J.E.J., Bornman, P.C., Panieri, E., Beningfield, S.J. and Wainwright, H.C. 2011. Solid pseudopapillary epithelial neoplasm - a rare but curable pancreatic tumour in young women. South African Journal of Surgery, 49(2): 75-81.

Karlsson, P., SUN, Z., Braun, D., Price, K.N., Castiglione-Gertsch, M., Rabaglio, M., Gelber, R., Crivellari, U., Collins, J., Murray, E.M., Zaman, K., Colleoni, M., Gusterson, B., Viale, G., Regan, M., Coates, A. and Goldhirsch, A. 2011. Long-term results of International Breast Cancer Study group Trial VIII: Adjuvant chemotherapy plus goserelin compared with either therapy alone for pemenopausal patients with node-negative breast cancer. Annals of Oncology, 22: 2216-2226.

Karlsson, P., Cole, B.F., Colleoni, M. and Murray, E.M. 2011. Timing of radiotherapy and outcome in patients receiving adjuvant endocrine therapy. International Journal of Radiation Oncology Biology Physics, 80(2): 398-402.

Lawson, A.J., Rischbieter, P., Numanoglu, A., Wieselthaler, N. and Beningfield, S.J. 2011. Imaging the Rex vein preoperatively using wedged hepatic venous portography. Pediatric Radiology, 2011(41): 1246-1249.

Patel, M., Beningfield, S.J. and Burch, V. 2011. Abdominal and pericardial ultrasound in suspected exrapulmonary or disseminated tuberculosis. SAMJ South African Medical Journal, 101(1): 39-42.

Pitcher, R.D., Daya, R.B., Beningfield, S.J. and Zar, H.J. 2011. Chest Radiographic Presenting Features and Radiographic Progression of Pneumocystis Pneumonia in South African Children. Pediatric Pulmonology, 46: 1015-1022.

Stannard, C.E., Maree, G.J., Munro, R., Lecuona, K. and Sauerwein, W. 2011. Iodine-125 Orbital Brachytherapy with a Prosthetic Implant in Situ. Strahlentherapie und Onkologie, 187(5): 322-327.

Tayib, S., Van Wijk, A.L. and Denny, L.A. 2011. Gestational trophoblastic Neoplasia and Human Immunodeficiency Virus Infection A 10-Year Review. International Journal of Gynecological Cancer, 21(9): 1684-1691.

Vlok, A.J. and Dunn, R.N. 2011. Spondylolytic spondylolisthesis: Surgical management of adult presentation. SA Orthopaedic Journal, 10(3): 85-9.

Weinreich, C., Ross, I.L., Kotze, T., Levitt, N. and Steyn, R.E. 2011. Carcinoid heart disease: Two clinical cases and a review. Journal of Endocrinology, Metabolism and diabetes of South Africa (JEMDSA), 16(1): 58-63.

## DEPARTMENT OF SURGERY

HEAD OF DEPARTMENT: PROFESSOR DEL KAHN

## DEPARTMENTAL PROFILE

The Department of Surgery comprises the nine Divisions: General Surgery, Cardiothoracic Surgery, Emergency Medicine, Neurosurgery, Ophthalmology, Orthopaedics, Otorhinolaryngology, Plastic Surgery and Urology. Each of the Divisions functions very independently with regard to administration, clinical service, undergraduate and postgraduate teaching, and research. The Special Clinical expertise, research interests, and outstanding achievements over the last year, are documented in the individual divisional profiles.

The Department of Surgery Research Day, organised by Dr Sean Burmeister, was a most successful collaboration between the Divisions. Professor Alastair Millar delivered the John Terblanche Lecture.

## **DIVISION OF GENERAL SURGERY**

HEAD OF DIVISION: PROFESSOR DEL KAHN

## **Divisional Profile**

The four surgical firms within the Division of General Surgery are responsible for Hepatobiliary Surgery, Surgical Oncology/Endocrine Surgery, Colorectal Surgery, and Vascular Surgery. The Surgical Intensive Care Unit, the Trauma Unit, and the Transplant Unit are also part of the Division. The Division prides itself on maintaining high standards of clinical service, and teaching of both undergraduates and postgraduates. The Division continues to function as a true academic unit, with its members making significant contributions at both local and international meetings, while at the same time maintaining a high research output.

Professor Jake Krige has several research projects in Portal hypertension and diseases of the liver and bile ducts. Professor Lance Michell is involved in an audit of admissions to the Surgical ICU, as well as several multi centre pharmaceutical trials using anti microbials.

The Vascular Unit under Dr Nad Naidoo has established a vibrant endovascular service. Genetic aspects of colorectal cancer is the main research interests of Professor Paul Goldberg in the Colorectal unit. Professor Eugenio Panieri has a special interest in sentinel lymphnode biopsy in breast cancer as well as problems related to battery acid ingestion and thyroid

cancer. Professors Andy Nicol and Pradeep Navsaria are involved in major audits of various types of trauma, as well as various prospective randomised studies including penetrating cardiac injuries. Dr Elmi Muller has embarked on a study of transplanting kidneys from HIV positive donors into HIV positive recipients.

## **CONTACT DETAILS**

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## DIVISION OF OPHTHALMOLOGY

#### HEAD OF DIVISION: PROFESSOR C. COOK

## **Divisional Profile**

The Division of Ophthalmology combines an academic hospital service with University teaching, clinical training and research.

Specialist tertiary care clinical services are provided to patients in the Western Cape and beyond.

Teaching is provided to fifth year medical students, and specialist training of both local graduates and graduates from other countries is provided.

A postgraduate diploma course in community eye health is provided for Vision 2020 programme managers working in sub Saharan Africa.

#### **Permanent and Long Term Contract Staff**

Professors	1
Senior Lecturers	5
Lecturers	8
Administrative Staff	2
Total	20

#### **Students**

Master's	10
Postgraduate diploma	3
Undergraduate	187
Total	200

## **Permanent Staff (Full-Time)**

#### DR N. COCKBURN

Consultant Specialist, Groote Schuur Hospital. Anterior

segment surgery, corneal disease, development of primary and secondary eye care services in the Western Cape.

#### PROFESSOR C. COOK

Professor and Head, Division of Ophthalmology, UCT Faculty of Health Sciences and Groote Schuur Hospital. Prevention of blindness in developing countries, training of primary and secondary level eye care workers for sub-Saharan Africa, glaucoma.

#### DR N. DU TOIT

Consultant Specialist, Groote Schuur Hospital. Anterior segment surgery, glaucoma, ocular trauma.

#### DR K.A. LECUONA

Consultant Specialist, Groote Schuur Hospital. Prevention of blindness in developing countries, lacrimal drainage disorders, inflammatory eye disease, ocular oncology.

#### DR J. RICE

Consultant Specialist, Groote Schuur Hospital. Vitreoretinal disease.

#### DR C. TINLEY

Paediatric Consultant in Charge at Red Cross Children's Hospital. Paediatric ophthalmology.

#### **Permanent Staff (Part-Time)**

#### DR E. ALBRECHT

Medical retina.

#### DR J. DE VILLIERS

Strabismus.

#### DR R. GROTTE

Paediatric ophthalmology

#### DR D. HARRISON

Oculoplastics

#### DR M. JOHNSTON

Surgical retina

#### DR F. KUPPER

General anterior segment

#### PROFESSOR A. MURRAY

Emeritus Professor, Division of Ophthalmology, UCT Faculty of Health Sciences and Groote Schuur Hospital. Strabismus.

#### DR A. PERROTT

Glaucoma.

#### DR P. STEVEN

Neuro-Ophthalmology.

#### DR H. VAN VELDEN

Surgical retina.

## **Honorary Staff: Part-Time**

#### DR K SUTTLE

Surgical retina, oculoplastics.

#### DR H VAN VELDEN

Surgical retina.

## **Distinguished Visitors**

PROFESSOR TOVO LIFSHITZ, TEL AVIV DR DAN NEELY, ORBIS DR TRAVIS POLLOCK, DUBAI PROFESSOR CLAIRE GILBERT, LONDON DR STEF GUGLIELMETTI, JOHANNESBURG

## **CONTACT DETAILS**

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# DIVISION OF ORTHOPAEDIC SURGERY

#### HEAD OF DIVISION - PROFESSOR JOHAN WALTERS

### **Divisional Profile**

The Orthopaedic Surgery Department hosted the 2011 CMSA Examination. All 4 candidates, Drs G McCollum, C White, S Bick and D McGuire excelled in both the March and September examinations with Duncan McGuire being awarded the Eidelstein Medal by the SAOA for the best performance of all candidates for the year 2011.

Much of the credit for this excellent performance is credited to the outstanding teaching from all our Senior Staff, with special mention given to Teddie Hoffman.

Research output has picked up encouragingly with significant contributions from all sectors.

The AO Spinal Fellowship was awarded to Dr A Puddu.

#### **Divisional Statistics**

## **Permanent and Long Term Contract Staff**

Professor	1
Associate Professor	2
Senior Lecturers	3
Senior Lecturers – Part-time	4
Lecturers – Full-time	5
Lecturers – Part-time	6
Administrative and Clerical Staff	1
Total	22

#### **Students**

Postgraduate FCS(SA) Orth & MMed	19
Undergraduate MBChB	185
Bsc Physio/Occupational Therapy 111	30
Diploma in Orthopaedic Nursing Science	26
Total	260

## RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

#### PROFESSOR JOHAN WALTERS

Head of Division; Anterior Cruciate Ligament; Hip and Knee Replacement; Exoskeletal Fixation devices; Patello femoral joint; Implant development.

#### ASSOCIATE PROFESSOR EB HOFFMAN

Head, Orthopaedic Service, Red Cross Children's Hospital; Paediatric Orthopaedic Deformity; Tumours and Infection.

## DR MW SOLOMONS

Head, Martin Singer Hand Unit, Groote Schuur Hospital; Mechanics of External Fixation; Fracture Dislocations around the Elbow; Humerus Shaft Fractures; Distal Femur Fractures; Two-stage Flexor Tendon Grafting; Radial Head; Ulnar Head Prosthetics, Radiographic Imaging Device Development.

#### ASSOCIATE PROFESSOR RN DUNN

Senior Lecturer, Princess Alice Orthopaedic Unit; Spinal trauma and deformities; Spinal Implant development.

## DR SJ ROCHE

Senior Lecturer, Princess Alice Orthopaedic Unit; Shoulder and Elbow problems.

#### DR SI DIX-PEEK

Senior Lecturer, Princess Alice Orthopaedic Unit; Foot reconstruction; Limb inequality and Paediatric deformities.

#### DR N KRUGER

Lecturer, Groote Schuur Hospital; Trauma; Spinal problems.

#### DR S MAQUNGO

Lecturer, Groote Schuur Hospital

#### DR G P GROBLER

5/8th Lecturer, Princess Alice Orthopaedic Hospital; Hip and knee pathology; Arthroplasty Outcome Studies.

#### DR J CROSIER

Part-time Senior Lecturer, Groote Schuur Hospital; Spinal problems.

#### DR KV HOSKING

Part-time Senior Lecturer, Princess Alice Orthopaedic Unit; Bone tumours; Limb salvage procedures; Implant development.

#### DR P MAKAN

Part-time Senior Lecturer, Groote Schuur Hospital; Spinal fusion instrumentation.

#### DR LT SPARKS

Part-time Senior Lecturer, Princess Alice Orthopaedic Unit; Paediatric Surgery; Cerebral palsy.

#### DR B DOWER

Part-time Lecturer, Princess Alice Orthopaedic Unit, Arthritis, Hip Replacement surgery.

#### **DR T MUNTING**

Part-time Lecturer, Princess Alice Orthopaedic Unit, Adult Lower Limb Reconstruction.

#### DR P POLLEY

Part-time Lecturer, Groote Schuur Hospital; Trauma

#### DR H HOBBS

Part-time Lecturer, Princess Alice Orthopaedic Unit, Arthroplasty

## DR R VON BORMANN

Part-time Lecturer, Princess Alice Orthopaedic Unit, Lower Limb: Trauma Reconstruction

## DR M MAREE

Part-time Lecturer, Groote Schuur Hospital; Hands

## **CONTACT DETAILS**

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## DIVISION OF EMERGENCY MEDICINE

#### HEAD OF DIVISION: ASSOCIATE PROFESSOR LA WALLIS

#### **Divisional Profile**

Emergency Medicine was officially recognised as a medical specialty in South Africa in 2004. Since its inception, the Division of Emergency Medicine has been a joint-division at the University of Cape Town (UCT) and Stellenbosch University (SU). The Head of the Division is joint-staff (70% Provincial Government of the Western Cape, 15% UCT, and 15% SU). Additionally, many of the faculty and staff share joint-affiliation with the Provincial Government of the Western Cape (PGWC). The Division utilises various academic and satellite hospitals for the purposes of teaching and research; these include: Groote Schuur, Red Cross War Memorial Children's, Victoria, GF Jooste, Paarl, and New Somerset Hospital. The types of patients seen and emergencies treated vary among hospitals, allowing our MMed students to become fully competent Emergency Medicine specialists.

The Division places an emphasis on research publications by faculty and students at all levels of training. In 2011, the Division produced 20 publications in peer-reviewed journals and contributed to more than a dozen book chapters. The foci of the Division's research has been in the following areas: African emergency care development, emergency ultrasound in Africa, pre-hospital care and disaster medicine, and emergency care systems.

The Division has 1 Professor, 2 Senior Lecturers, 3 Lecturers, and 1 Research Coordinator between SU and UCT. There are 9 honorary lecturers at SU and an additional 10 honorary lecturers at UCT.

## Head of Division (UCT, SU & PGWC)

A/Professor Lee A. Wallis MBChB MD FRCSEd DIMC Dip Sport Med FCEM FCEM(SA)

#### **Head of Education**

Heike I. Geduld MBChB FCEM(SA) MMed(EM)

MPhil Programme Coordinator Tyson Welzel MBChB EMDM

## **Divisional Statistics**

## **Permanent and Long-term Contract Staff**

Associate Professor	1
Senior Lecturers	2
Research Staff	1
Total	4

#### **Honorary staff**

Honorary Lecturers	10
Total	10

#### **Students**

PhD	10
MMed / College	16 (&16 Stellenbosch)
MMed supernumerary	6 (& 6 Stellenbosch)
MPhil	9
MSc	5
Undergraduate	3rd, 4th, 5th and 6th years

## **CONTACT DETAILS**

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## **DIVISION OF NEUROSURGERY**

#### HEAD OF DIVISION: PROFESSOR GRAHAM FIEGGEN

## **Divisional Profile**

The Division achieved some notable milestones in a year which saw ad hominem promotion for Professor Tony Figaji, appointment as a Visiting Professor at the University of the Witwatersrand for Associate Professor Allan Taylor and the appointment of the first two Honorary Professors in Neurosurgery in Peter Siesjo (Lund) and Matthew Wood (Oxford). Furthermore, consultants organised and hosted two major international congresses, Emeritus Professor Kay de Villiers received the prestigious UCT Book Award for for *Healers, Helpers and Hospitals* and we were able to include a 3 month research rotation in the registrar program.

The DoHET-funded Chief Registrar post was awarded to Dr Marco Kogels after a competitive process and he fulfilled the role very effectively. This enabled us to restructure the training program to allow a research rotation and Drs Nte Mjoli, Johan Malan, David Roytowski and Edwin Mogere were all able to complete their MMed projects, with Dr Mjoli becoming the first neurosurgical registrar to pass

his MMed dissertation before taking his final fellowship examination. Dr Crispin Thompson completed his training and took up a senior registrar position in Leeds; this post was filled by Dr Ncedile Mankahla.

Dr Peter Ssenyonga also completed his training and returned to Uganda to take up a position at CURE Children's Hospital in Mbale where he joined another UCT-trained neurosurgeon Dr John Mugamba. In view of this track record, CURE wished to continue their relationship with UCT in funding the training of a third Ugandan, Dr Emmanuel Wegoye who commences his training in 2012. In order to contribute to the development of neurosurgery on our continent, we have priorised the training of supernumerary registrars from elsehwere in Africa and we are fortunate to have another two talented trainees in Dr Mogere (Kenya) and Dr Mohamed Ben-Husein (Libya).

Associate Professor Allan Taylor and Dr David Le Feuvre presented at the International Peer Review Meeting in Val d'Iser and the SNIS meeting in Colorado, USA. Professor Taylor was an invited speaker at the Canadian Congress of Neurosciences (Vancouver), the Boerhaeve Course in the Netherlands and the PLANET course in Thailand. The highlight of the year was undoubtedly hosting the 11th bienniel congress of the World Federation for Interventional and Therapeutic Neuroradiology in Cape Town in November. With over 1200 delegates this was the largest and most successful meeting ever of this rapidly growing international society and a real tribute to their international standing.

Dr Sally Rothemeyer, Dr Roger Melvill and Profesor Fieggen hosted the Interim Meeting of the World Society for Stereotactic and Functional Neurosurgery later that month. This primarily educational meeting was also enormously successful, supported by a wide range of international experts and attended by delegates from 20 African countries.

Dr David Welsh was invited to present at the Cervical Spine Research Society meeting (St Louis, USA). Professor Semple contributed to the international consortium of pituitary surgeons and visited CURE Hospital in Uganda to consolidate our links with that institution.

Associate Professor Tony Figaji was promoted ad hominem to full professor. He was an invited speaker at the 5th World Congress of Pediatric Intensive Care Societies (Sydney, Australia), the International Neurotrauma Symposium (Shanghai, China), the 14th Interim Meeting of the WFNS (Recife, Brazil) and the XVth International Symposium on Brain Oedema (Tokyo, Japan). Furthermore he has been invited to host two international meetings, the 3rd bienniel meeting of the International Society for Intraoperative Neurophysiology (2013) and the International Neurotrauma Congress (2016). He was invited to join the Pediatric Brain Injury Consortium and convened a symposium on

intracerebral microdialysis attended by Professor Peter Siesjo and Dr David Cederberg (Lund, Sweden) and Dr Adel Helmy (Cambridge, UK).

Dr Llewellyn Padayachy attended the second and third cycle of the Eurpean Society for Pediatric Neurosurgery Course in Hong Kong and Malaysia, becoming the first South African neurosurgeon to graduate from this course. He presented at the International Society for Pediatric Neurosurgery meeting in Goa, India and was an invited speaker at the WFNS course in Taipei.

Professor Graham Fieggen was invited to speak at the 14<sup>th</sup> Interim Meeting of the WFNS (Recife, Brazil), the 39<sup>th</sup> ISPN Annual Meeting (Goa, India) and continued to serve on the faculty on the ESPN course (Limerick, Ireland).

The activities of the full-time staff are enhanced by regular input from both former Chairs and five part-time consultants. Emeritus Professor Jonathan Peter was supported by a DoHET grant from the Department of Surgery to help with postgraduate and undergraduate education while also playing a leading role in the development of intraoperative neurophysiology program.

Research was funded by grants from the MRC (PI: AG Fieggen) and the Wellcome Trust (PI: AA Figaji) and generous support was received from the Mauerberger Fund. Seven papers were published in international peer-reviewed journals and members of the department served on the editorial boards of Neurosurgery, Childs Nervous System, World Neurosurgery and Interventional Neuroradiology.

Members of the Division continue to play leading roles in other international and national neurosurgical organisations with Professor Semple elected as President of the College of Neurosurgeons for the triennium 2011-2014, Professor Taylor serving as Secretary of the Society of Neurosurgeons of South Africa and Dr David Welsh serving as Secretary-Treasurer of the Spine Society and AO South Africa.

## **Divisional Statistics**

## **Permanent and Long Term Contract Staff**

Professors	2
Associate Professor	2
Senior Lecturers	2
Lecturers	3
Registrars	5
Medical Officer	2
Supernumerary Registrars	3
Administrative & Clerical Staff	1
TOTAL	20

#### **Students**

Doctoral	1
Master's	9
TOTAL	10

## **Honorary Staff**

Emeritus Professor	2
Honorary Professors	2
Part-time Lecturers	5

## RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

#### PROFESSOR GRAHAM FIEGGEN

Head of Division; Paediatric and Functional Neurosurgery: spasticity in cerebral palsy, epilepsy surgery; congenital anomalies including dysraphism and the tethered spinal cord, hydrocephalus and neuroendoscopy; CNS infection; neurotrauma.

#### PROFESSOR ANTHONY FIGAJI

Paediatric Neurosurgery, neurotrauma and neurocritical care: CNS injury and monitoring techniques including intraoperative neurophysiology; hydrocephalus and neuroendoscopy; CNS infection including TB; neurooncology.

#### ASSOCIATE PROFESSOR PATRICK SEMPLE

Pituitary disease and neuroendoscopy; neurocritical care, neurotrauma. neuroHIV.

## ASSOCIATE PROFESSOR ALLAN TAYLOR

Neurovascular: diseases, interventions and surgery; Radiosurgery, stereotactic surgery and neuronavigation; skull base surgery.

## DR DAVID LE FEUVRE, SENIOR LECTURER

Neurovascular: diseases, interventions and surgery; HIV vasculopathy, skull base surgery.

## DR DAVID WELSH, SENIOR LECTURER

Neurospine: diseases and treatment, spinal trauma.

## DR SALLY-JANE ROTHEMEYER, LECTURER

Functional neurosurgery: pain, epilepsy and movement disorders; neuroHIV.

#### DR LLEWELLYN PADAYACHY, LECTURER

Paediatric Neurosurgery: craniofacial surgery, paediatric neurovascular diseases, neurocritical care, monitoring and neuronavigation.

#### **EMERITUS PROFESSOR JONATHAN PETER**

Paediatric Neurosurgery: intraoperative neurophysiology, spasticity.

## CONTACT DETAILS

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## **DIVISION OF UROLOGY**

#### HEAD OF DIVISION - PROFESSOR R D BARNES

## **Divisional Profile**

The Division of Urology renders a urological service to Groote Schuur Hospital, Red Cross War Memorial Children's Hospital and Somerset Hospital. An operating list is done once per week at Eerste river Hospital, operating on Groote Schuur Hospital patients.

Dr John Lazarus is head of Paediatric Urology at Red Cross Hospital and Professor R D Barnes attends Somerset Hospital for ward rounds and outpatients. The operating list at Eerste River Hospital is done by a Senior Registrar assisted by Professor Johan Naudé (ex head of Division of Urology).

Undergraduate teaching is provided to 6th year medical students, who do a two week block in Urology. Postgraduate training is provided to Urology Registrars and also to supernumerary registrars. The members of our division make significant contributions at both local and international meetings. A number of our members have attended instructional courses both locally and overseas. The Division has maintained its productivity despite staff shortages and the financial crisis.

Drs Conray Moolman and Karlheinz Jehle were successful in the FC (Urol) final exams.

The Division is involved with two combined clinics – Urological Oncology Clinic (with Radiation Oncologists) and Female Continence Clinic (with Gynaecologists). We run a number of other specialised clinics – Adolescent Spinal Defects Clinic, Haematuria Clinic, Stricture Clinic, Erectile Dysfunction Clinic, Reconstructive Urology Clinic and Metabolic Stone Clinic.

#### **Divisional Statistics**

## **Permanent and Long-term Contract Staff**

Principal Lecturer	1
Senior Lecturers	3
Administrative	1
Sessional Senior Lecturers	3
Total	8

#### **Students**

MMed	5
Undergraduate (6th years)	179
Total	184

## RESEARCH FIELDS AND STAFF

#### PROFESSOR R D BARNES

Metabolic aspects of Urolithiasis, Urological Oncology

#### PROFESSOR A R PONTIN

Renal infections in diabetics, Female Incontinence, Urological Oncology

#### **DR J LAZARUS**

All aspects of Paediatric Urology; Surgical Treatment of Renal Calculi

#### DR S SINHA

Widening indications for laparoscopic surgery in urology; double J stent insertion under local anaesthetic; radical cystectomy and extended pelvic lymphadenectomy

#### DR L KAESTNER

Prostate cancer; Renal Transplantation; Urogynaecology

#### DR A VAN DEN HEEVER

Results of urethroplasty for urethral strictures

#### DR K JEHLE

Review of locally performed prostate biopsies under transrectal ultrasound; Urodynamics

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## DIVISION OF OTOLARYNGOLOGY

#### HEAD OF DIVISION: PROFESSOR JOHAN FAGAN

#### **Divisional Profile**

The Division of Otolaryngology combines an academic hospital service with university teaching, training and research. It provides specialist clinical services to patients in the Western Cape and beyond. Its university responsibilities include in-hospital and community-based training of 5<sup>th</sup> year medical students, teaching of dental and paramedical students, and specialist training of both local graduates and graduates from other countries. An outreach programme supplements the training of students and primary health care workers in the fundamentals of ear care. We place a strong emphasis on clinical research.

## **Divisional Statistics**

#### **Permanent and Long-term Contract Staff**

Professors	1
Lecturers	4
Lecturers (part-time)	6
Audiologists	3
Administrative Staff	1
Total	15

## **Students**

Master's	9
Karl Storz Fellow in Advanced Head and Neck	1
Surgery	

## STAFF AND RESEARCH FIELDS

#### J.J. FAGAN

Head and Neck Cancer; Developing World ENT

#### D.E. LUBBE

Rhinology; Minimally invasive cranial base surgery.

#### G.J. COPLEY

Paediatric ENT, ENT in primary care

#### E. MEYER

Otology.

## A. VAN LIEROP

Head and Neck Cancer, General ENT

## **CONTACT DETAILS**

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## CHRIS BARNARD DIVISION OF CARDIOTHORACIC SURGERY

### HEAD OF DIVISION: PROFESSOR PETER ZILLA

## **Divisional Profile**

The Division offers the full range of adult and paediatric cardiac and thoracic surgery services, including all forms of congenital heart disease, myocardial revascularisation (both on - and off-pump), cardiac valvular surgery including an active valve repair program to preserve the patient's own valves rather than replace them with prostheses. We also offer thoracic aortic surgery. The only technologies we do not have access to are long-term left ventricular assist devices and the artificial heart both of which are prohibitively expensive in a developing world situation. We are in the process of setting up a 'hybrid operating theatre' enabling us to offer the most recent development in heart valve replacement, namely transcatheter delivered valve prostheses which in many ways will be the ideal manner of the replacement of valves in a third world setting. As this technology is prohibitively expensive special training-arrangements were entered with the commercial valve providers to make it affordable under public hospital circumstances. Moreover, our cardiovascular research laboratories have been focusing on developing alternative transcatheter devices specifically aimed at the needs of a developing country; this includes collaborative studies with the medical device industry and other international academic units to allow newer and more cost-effective devices to become available to us. In this context, a UCT start-up company was formed around IP developed in the Cardiovascular Research Unit, receiving substantial funding - inter alia from the Department of Science and Technology's 'Technology Innovation Agency' (TIA).

## **Divisional Profile (Cardiovascular Research Unit)**

2011 saw a final move away from industry funding to academic grants as our long-term collaboration with a leading global medical device company came to an end.

The Western Cape Heart Research Grouping of the Medical Research Council, of which the Cardiovascular Research

Unit is a member, was formally reviewed and extended for another five year term. New collaborative projects between the Groups members were identified and initiated.

A most significant growth was experienced by our biomechanics group that has current ongoing grants to the amount of 5  $\frac{1}{2}$  million Rand.

Our unit is also a participant in Welcome grant in collaboration with the Department of Medical Biochemistry, and a NRF grant supporting our research on the biomechanics of cardiovascular devices. After having been awarded a new angiography unit for our research laboroatories in 2008 by the NRF we received another major equipment grant for a state-of-the-art echocardiography machine for our experimental surgical suite.

Research focusing on the cell biology of the process of neovascularisation has spear-headed our regenerative medicine approach to facilitating the body's own ability to remodel semi-synthetic prostheses. In this regard, a small animal circulatory vascular model for screening of graft healing has been fully established and is providing very promising initial results.

Additionally, a model for assessment of the regenerative capacity of synthetic hydrogels in the treatment of heart failure induced by myocardial infarction has been established and has led to published results and interest from overseas collaborators.

Postgraduate training remained a priority in 2011. Interdigitation between our clinical staff and researchers also remains a key goal for which the Division continues to strive.

## **Divisional Statistics**

## **Permanent and Long Term Contract Staff**

Professor	1
Associate Professors	4
Senior Consultants	3
Senior Lecturer	3
Supernumerary Registrars	2
Surgical Registrar	4
Medical Officer	2
Senior Scientific Officer	1
Administrative Officer	0.5
Secretary	1
Senior Medical Technologist	2
Clinical Technologist/Perfusionist	6
Laboratory Assistant	1
TOTAL	29.5

#### **Students**

Doctoral	13
Master's	10
Honours	3
M.Med.	6
SSM Students	2
TOTAL	34

## RESEARCH FIELDS AND STAFF

#### **Permanent Staff**

#### PROFESSOR PETER ZILLA

Head of Division

#### ASSOCIATE PROFESSOR JOHAN BRINK

Clinical Director

#### DR PAUL HUMAN

Research Director

#### ASSOCIATE PROFESSOR JOHN HEWITSON

Section Head: Paediatric Surgery

#### ASSOCIATE PROFESSOR THOMAS FRANZ

Section Head: Biomechanics

#### DR LOVEN MOODLEY

Section Head: Thoracic Surgery

#### DR ANDRE BROOKS

Senior Consultant

#### DR DEON BEZUIDENHOUT

Senior Lecturer: Section Head Polymer Sciences

#### DR NEIL DAVIES

Senior Lecturer, Section Head Biology and Regeneration

#### CONTACT DETAILS

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## **DIVISION OF PLASTIC SURGERY**

#### HEAD OF DIVISION: PROFESSOR DA HUDSON

## **Divisional Profile**

The Division of Plastic Surgery combines an academic hospital service, with university teaching, clinical training and research. The division also functions at Red Cross Children's Hospital and pressures sores are dealt with at Eerste River Hospital. Specialist tertiary services are provided to patients of the Western Cape and beyond.

The Department is actively involved in a number of multidisciplinary which include:

- 1. head and neck cancer clinic
- 2. skin cancer clinic
- 3. melanoma clinic
- 4. transsexual clinic
- 5. combined breast clinic

Multi-disciplinary clinics at Red Cross Children Hospital include:

- 1. Cleft lip and palate clinic
- 2. Inter sex scar clinic
- 3. Cranio facial clinic
- 4. Congenital ear clinic
- 5. Congenital hand clinic

Teaching is provided to fifth year medical students PAMS and specialist training of post graduates is undertaken – including supernumerary registrars from other countries. The Department is actively involved in research in all aspects of Plastic Surgery, including paediatric Plastic Surgery.

The Department enjoys a strong partnership with colleagues in private practise. These part time surgeons provide valuable input to the Department both in teaching and in clinical services.

The division has enjoyed some success in 2011. Firstly Dr Saleigh Adams was appointed a full time consultant Red Cross Hospital-the first appointment of this kind to an expanding sub speciality. Secondly the Division has had 2 successful PhD candidates in successive years Dr Rickard in 2010. In 2011 Dr N. Kairinos obtained his PhD in the mechanism action of negative pressive wound therapy.

The Division continued to conduct research in breast reconstruction, complex wounds, paediatric plastic surgery, microsurgery and buns.

## **Permanent and Long Term Contract Staff**

Professors	1
Senior Lecturers	2
Lecturers	10
Administrative Staff	1
Total	14

#### **Students**

PhD	1
Master's	5
Undergraduate	0
Total	6

## RESEARCH FIELDS AND STAFF

#### PROF. D.A. HUDSON

Breast Reconstruction; Wound Healing; Burns.

#### DR K. ADAMS

Management of complex wounds, Transsexual Surgery, Burns

#### DR S. ADAMS

Cleft Lip Palate; Lower leg Reconstruction, Burns

#### CONTACT DETAILS

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## RESEARCH OUTPUT

## **Chapters in books**

Navsaria, P.H. 2011. SNOM: Conservative Management of Solid Viscera. In G.C. Velmahos(ed.), SNOM: Conservative Management of Solid Viscera. New York: Springer Heidelberg Dordrecht. ISBN 978-3-642-20452-4.

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auxilliary artery injuries. South African Journal of Surgery, 49(3): 158.

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HIV-infected patient due to Scedosporium apiospermum (Pseudallescheria boydii complex). South African Journal of Epidemiology and Infection, 26(2): 88-89.

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