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Foreword

This 2012 annual report is a celebration of the achievements of the Faculty of Health Sciences staff and postgraduate students. While the report covers the activities of 2012 specifically, over the last five years we have increased publication rates and also postgraduate student throughputs at some levels, initiated courses in every aspect of research possible, run an internationally successful alumnus programme, cultivated major collaborations, put in place strong mechanisms for communicating research and related matters to staff and postgraduate students and proudly observed the achievements of emergent and senior staff. It has been an incredible journey and a great pleasure to be part of these achievements. Below is a summary of our achievements:

The Faculty has over the last several years shown a pleasing increase in publication numbers. There has been a 52% increase in publications between 2010 and 2011, and a possible slight increase between 2011 and 2012 (2012 figures are not yet confirmed). We did however, have a very poor year in 2010 with a decrease of 17% in publication numbers from 2009. We believe that the latter was due to the poor capturing of publications in 2010. The capturing of publications remains a concern for the Faculty.

Overall, the School of Clinical Medicine (SOCM) has produced the most publications in the Faculty over the period 2008-2012, followed by the School of Pathology. However the burden of heavy service delivery and the poor conditions in the Hospital services, as well as the system of RWOPS which previously was not managed, has not allowed SOCM to reach its full potential. We hope to support clinical research with the introduction of the Carnegie Academic Medicine Programme which is allowing us to promote a small group of clinician scientists each year to obtain their Ph.Ds. It is the Faculty’s hope that these clinician scientists following completion of their Ph.Ds, will return to their Departments where they will set up research niche areas which, over time, will become productive in research and capacity development.

While many researchers in the Faculty collaborate extensively with local and international researchers, the Faculty has endeavoured to open further possibilities for collaborations through its Alumni Diaspora Programme. This programme has been so successful, that the Carnegie Foundation of New York has invited the HSRO to submit a concept document to enable funding.

A major product of the Diaspora Programme is the collaboration with Vanderbilt University Medical School (US). This proposed programme will involve training and exchange at undergraduate, postgraduate and staff level, research collaborations and assistance with the Wits HSRO initiative to create a Medical Bioinformatics System.

Postgraduates
Currently, postgraduates in the Faculty account for approximately 42% (as at the end of March 2013) of the total registrations. Enrollments have been steadily increasing in the Faculty, while graduations have remained stable. The July 2013 graduations were extremely exciting with two D.Scs, 18 Ph.Ds (15 in the FHS and three in the Faculty of Science) and many Masters students graduating. This is a superb accolade for the Faculty, its supervisors and internal examiners!

Over the last five years the Faculty has introduced many support structures to enable both staff and postgraduate students. Amongst these are:

- research courses in quantitative research, qualitative research, biostatistics,
- grant writing,
- scientific writing and
- supervisors courses.

On the support and incentive side, the Faculty has introduced:
writing retreats (the writing retreat sponsored by SPARC in 2012 resulted in 186 publications)
the reimbursement of page charges for publishing in open access or high impact factor journals,
individual research grants for young staff and postgraduate students,
minor equipment co-funding or funding,
start-up funds for new staff,
writing dyads for postgraduate students,
financial support for conference attendance for staff and postgraduate students and
mini-postdocs amongst others.

Communication across the Faculty has been strengthened by the production of:
- The monthly HSRO Research Newsletter
- The quarterly PG Herald (Newsletter)
- The monthly HSRO Bulletin
- The quarterly Grant Bulletin
- The HSRO Biennial Report
- The annual Postgraduate Brochure
- The annual Postdoctoral Brochure
- HSRO News Screens

In addition, the Faculty Research Awards Dinner held annually, acknowledges the dedication of our high performers in all aspects of research. We include emergent researchers as an important part of our capacity development. I believe that this event has been highly appreciated by researchers.

I thus believe that the increase in our outputs and throughputs has been as a result of creating a supportive and enriching environment for researchers through the measures addressed above. By pooling our resources to support the needs of our researchers, we have been able to achieve substantial gains in our productivity.

Of course, there have been some aspects in which we have not been as successful:

- Our inability to initiate a research building at CH Baragwanath through province
- Our inability to bring the new Wits- Aurum coalition to a substantial position
- Our inability to solve the problems for researchers around IT and HR

The HSRO team has worked hard and learnt a lot along the way. Their dedication and strong support is heartily acknowledged. Mrs Phillipa McKechnie, who left us in 2012, contributed substantially to this. A big thank you to her for all her support and efforts.

In addition, the staff of the Postgraduate Office under the Headship of Mrs Mathoto Senamela are also acknowledged for their dedication. During 2012, the Office was exceptionally short-staffed and thus, the staff were stretched to the limit. Increasing numbers of postgraduate students in the Faculty have also placed an increasing burden on the limited numbers of staff. Hopefully in 2013, the staff complement of the PG Office will be suitably constituted, thus relieving the burden on the existing staff.

Finally, an exuberant thank you to the Health Sciences researchers and postgraduate students! My five years in this position have remained fascinating, exhilarating, scientifically stimulating and sometimes even exasperating. You have all achieved great results and must be lauded for your efforts! It has been my privilege to work with you and my thanks to all of you for this amazing journey!

Professor Beverley Kramer
Assistant Dean: Research and Postgraduate Support
1. FACULTY RESEARCH OFFICE

1.1 Remit of the Faculty Research Office (FRO)

The aim of the FRO is to operationalise the strategic goals of the Faculty. The strategic goals centre around increased outputs of publications, increased throughputs of postgraduate students and support (financial where possible, strategic collaborations and courses) for all researchers. The FRO has once again attempted to enable the Faculty’s emergent researchers in 2012, through the auspices of the Emergent Researchers Forum (see page 56), the Postdoctoral Forum (see page 48) and other strategic ventures.

1.2 HSRO Support

The HSRO offers support to all researchers and particularly attempts to encourage and provide assistance to emergent researchers (including clinician scientists and Postdoctoral Fellows) and postgraduate students, not only through tangible means (eg courses, small grants and other financial incentives etc), but also through intangible means (personal interviews/assistance/tracking) (the variety of initiatives and support are contained in the relevant sections of this document). Research support is provided through a plethora of courses for both researchers and postgraduate students, assistance with pursuing grants, grant writing workshops and direct comment on grant applications, direct comment on entity applications, by providing opportunities for collaborations (eg the Diaspora Programme and the Vanderbilt collaboration), start up funds for new staff, financial support for congress travel for staff and postgraduate students and facilitation of scientific writing. One-one-one discussions with the Assistant Dean: Research and Postgraduate Support have led to the identification of assistance for many staff, joint staff and students eg in directions for research/research opportunities/collaborations within the Faculty/identification of mentors and supervisors. In addition, the support of minor equipment acquisition and individual grants has assisted many with setting up new projects. While the described assistance above is not exhaustive, all these endeavours have been initiated to create a supportive research environment for all levels of researchers in the Faculty. We believe that our outputs, which are showing a steady and pleasing increase, and our throughputs which are starting to elevate, are a result of creating this supportive and enriching environment for researchers. Many of these endeavours have been achieved through the pooling of resources in the Faculty.

Growing research requires support for departments and units that have not achieved a research output enabling access to grant funding particularly in the School of Clinical Medicine. Support for such areas requires a medium term strategy to broaden the clinician-scientist base for research. The measures described above are aimed at supporting new research initiatives including those for clinician scientists, to develop a sustainable output.

1.3 HSRO Staff

Tenured positions

1. Prof B Kramer: Assistant Dean: Research and Postgraduate Support (70%) – from April 2008.
5. Associate Professor T. Chirwa: Faculty Biostatistician. This post was made permanent in 2011 and resides in the School of Public Health.
Contract positions

1. Mrs. P. Mckechnie: **Strategic Projects Assistant** to the Dean and Assistant Dean: Research – from September 2009 until July 2012.
3. Associate Professor E. Libhaber: **Research Co-coordinator**, School of Clinical Medicine (Seconded to FRO).

We have shared our experiences by training NRF interns in research management and thus contributing to capacity development in this area. Over the period 2008-2012, we have trained three interns, two of whom were placed in research administrator’s posts immediately after their internship. The third has found employment as a laboratory technician.

The HSRO staff complement was increased in order to support the burgeoning amount of research activities in the Faculty which were initiated from 2008. Increasing posts has been exceptionally difficult as funding has not been available. By the end of 2012 staff in the HSRO were already working at full capacity. Expansion of research endeavours such as the Diaspora programme, the Vanderbilt Collaboration, the Medical Bioinformatics System, the Carnegie Programme, the Wits–Aurum Joint Venture have placed more and more demands on the HSRO. The Faculty needs to employ a professional grant writer to assist staff with completion of grant applications. It is forseen that additional staff member/s may need to be added to the team in the near future.

1.4 Faculty Research Committee (FRC) and Task Groups

The FRC met every two months during 2012 under the Chairmanship of Professor B Kramer. Minutes of the meetings can be obtained on request from Mr Moraba Meela.

Reports from Task Groups

The Faculty Research Committee (FRC) Task Groups have once again had an exceedingly busy year. The Chairman of the FRC Committee extends her gratitude to the Chairmen of the Task Groups and their committee members for the hard work undertaken on behalf of the Faculty in 2012.

In 2012, the Task Groups and their Chairpersons were as follows:

Research Entities: **Professor A Woodiwiss** (until June due to sabbatical). Professor Shane Norris appointed acting Chair from July
Individual Research Grants: **Professor J.M Pettifor**
Conference Travel: **Professor T Coetzer**
Faculty Research Prize: **Professor T Coetzer**
Faculty Research Day: **Dr B Kana**
Faculty Research Budget: **Professor B Kramer**
Research Entity Productivity: **Professor A Rothberg**
FRC Advisory Board: **Professor B Kramer**
FRC Strategic Equipment: **Professor B Kramer**
FRC Research Entity Forum: **Professor B Kramer**
1.4.1. Research Entity Task Group

1.4.1.1. Entity Annual Reports

The annual reports of all the Research Entities were received, and a meeting was held on the 24th May 2012 to review the reports. Many of the reviewed reports were exceptional with wonderful outputs. Four of these entities were honoured at the Research Awards dinner on the 10th July 2012. Letters of congratulations were sent to the entity leaders. Only one report did not comply with the FRC annual report guideline and hence a letter requesting resubmission was sent to the entity leader. Subsequently, the corrected annual report was received.

In order to facilitate communication between entities and their affiliated Departments and Schools, especially in those Schools with many Entities, a series of meetings were initiated. Members of the Entity Task Group met with the Head of School of Pathology and Heads of Departments pertaining to the two entities viz. Antiviral Gene Therapy Research Unit and Malaria Entomology Research Unit. Meetings were also held with the Head of School of Clinical Medicine and the Heads of Departments pertaining to six entities viz. Effective Care Research Unit (ECRU), Perinatal HIV Research Unit (PHRU), Developmental Pathways for Health Research Unit (DPHRU), Hepatitis Virus Diversity Research Programme (HVDRP), Pulmonary Infection Research Unit (PIRU), Clinical HIV Research Unit (CHRU) and Soweto Cardiovascular Research Unit (SOCRU). These meetings were found to be useful and constructive for all involved. It was subsequently agreed that this format should be used for all entities, not only those in the Schools of Pathology and Clinical Medicine.

1.4.1.2. New Applications

Dr S Mickenautsch and Professor V. Yengopal, School of Oral Health Sciences submitted an application for recognition of a programme: “A Systematic Review initiative for Evidence-based Minimum Intervention in Dentistry (SYSTEM)”. The application was favorably reviewed and agreed to for the period 2012-2016.

Professor Ugo Ripamonti submitted an application to the URC to retain unit recognition for his research entity, Bone Research Laboratory Research Unit, School of Physiology. This application was successful. The new cycle would be 2013-2017.

Professors M. Coetzee, T. Coetzer and R. van Zyl submitted an application to the FRC for a new institute, the Wits Research Institute for Malaria (WRIM). The Institute will report to both the Heads of Schools of Pathology and Therapeutic Sciences as well as the FRC. Directorship of the Institute, to be shared by Professors Coetzee and Coetzer will rotate every three years. The WRIM application for status as an Institute was submitted to the URC for final approval. The URC supported the application in principle and requested two external reviewers’ reports.

1.4.1.3. Review of Entities

1.3.1.3.1. Rural Public Health and Health Transitions Research Unit (Agincourt) Quinquennial Review

This entity was due for review in 2011. Although various dates were set, difficulties including the availability of external reviewers forced the MRC to postpone the review. The review finally took place on the 16th – 17th October 2012. This review was not a joint review.

1.4.1.3.2. Wits Reproductive Health and HIV Institute Scientific Advisory Board meeting

On the 5th December 2012 the annual Scientific Advisory Board chaired by Professor Feldman convened. Professor Rees and colleagues of WRHI were congratulated for their outstanding work during 2012. The
meeting succeeded in elucidating the complex nature of WRHI and challenges faced by the Institute; recommendations and possible solutions were discussed.

1.4.1.4. Administration of the Research Entities Documents

The FRC website was updated and all of the updated documentation pertaining to the research entities was placed on the web site. Following the review of the entity annual reports, these reports were placed on a sharepoint web-site so that all FRC members could have access to the annual reports should they wish to read them.

1.4.1.5. Current FRC/URC/MRC approved Entities in the Faculty of Health Sciences

In 2012, there were 18 recognized Research Entities in the FHS. The Entities, their Directors, cycles and their level of recognition, are depicted in Table 1. Unfortunately two of our Units lost MRC status from 2012. In addition, the Human Genomic Diversity and Disease Research Unit did not reapply for University recognition and will thus no longer be a recognized Research Unit in the Faculty from 2013.
Table 1: Faculty of Health Sciences Research Entities 2012

<table>
<thead>
<tr>
<th>Directors/Leader</th>
<th>School/Dept</th>
<th>Status</th>
<th>Recognition Cycle</th>
<th>Director/Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Antiviral Gene Therapy Research Unit</td>
<td>Pathology</td>
<td>FRC/URC Unit</td>
<td>2010 until 2014</td>
<td>Prof PB Arbuthnot</td>
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<tr>
<td>2. Bone Research Laboratory Unit</td>
<td>Clinical Medicine/ Surgery</td>
<td>FRC/URC Unit</td>
<td>2013 until 2017</td>
<td>Prof U Ripamonti</td>
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<td>717 2300</td>
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<tr>
<td>3. Brain Function Research Group</td>
<td>Physiology</td>
<td>FRC/URC Group</td>
<td>2008 until 2012</td>
<td>Prof A Fuller</td>
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<td>4. Carbohydrate &amp; Lipid Metabolism Research Unit</td>
<td>Clinical Medicine/Internal Medicine</td>
<td>FRC/URC Unit</td>
<td>2010 until 2014</td>
<td>Prof F Raal</td>
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<td>5. Cardiovascular Pathophysiology and Genomics Research Unit</td>
<td>Physiology</td>
<td>FRC/URC Unit</td>
<td>2010 until 2014</td>
<td>Prof G Norton</td>
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<td>6. Clinical HIV Research Unit</td>
<td>Clinical Medicine/Internal Medicine/WHC</td>
<td>FRC/URC Unit</td>
<td>2010 until 2014</td>
<td>Prof I Sanne</td>
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<td>7. Developmental Pathways for Health Research Unit</td>
<td>Clinical Medicine/Paediatrics</td>
<td>MRC/URC Unit</td>
<td>2011 until 2015</td>
<td>Prof S Norris</td>
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<td>8. Effective Care Research Unit</td>
<td>Clinical Medicine/ Obstetrics &amp; Gyn</td>
<td>FRC/URC Unit</td>
<td>2010 until 2014</td>
<td>Prof GJ Hofmeyr</td>
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<tr>
<td>11. Human Genomic Diversity and Disease Research Unit</td>
<td>Pathology/ Human Genetics</td>
<td>MRC/URC/NHLS Unit</td>
<td>2011 until 2012</td>
<td>Prof H Soodyall</td>
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<td>Prof M Coetzee</td>
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<td>13. Perinatal HIV Research Unit</td>
<td>Clinical Medicine/WHC</td>
<td>FRC/ URC Unit</td>
<td>2010 until 2014</td>
<td>Prof G Gray</td>
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<td>14. Pulmonary Infection Research Unit</td>
<td>Clinical Medicine/Internal Medicine</td>
<td>FRC/URC Unit</td>
<td>2011 until 2015</td>
<td>Prof C Feldman</td>
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The purpose of the task group is to allocate research funds to individual applicants on behalf of the Faculty Research Committee (FRC) generally on an annual basis. The funds that are allocated are derived from grants from the FRC and from a number of legacies and funds held for this purpose in the University Foundation. The latter include the Medical Faculty Research Endowment Fund and the Iris Ellen Hodges Cardiovascular and Stress Funds. For a period of four years, starting in 2008, specific funding was also obtained from the University Research Committee (URC) to assist MMed/MDent candidates with their research, however this specific funding was discontinued at the end of 2011. Thus the amount of funding available in 2012 for individual grants was the lowest as it has been for many years and resulted in a cut back in the individual allocations (see below).

<table>
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<tr>
<th>Funds</th>
<th>2007</th>
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<th>2009</th>
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<th>2011</th>
<th>2012</th>
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<td>536 000</td>
<td>525 600</td>
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<td>MFREF</td>
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<td>342 700</td>
<td>424 000</td>
<td>362 513</td>
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<td>I Hodges CVS</td>
<td>100 000</td>
<td>156 500</td>
<td>32 000</td>
<td>92 273</td>
<td>157 486</td>
<td>185 000</td>
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<td>I Hodges Stress</td>
<td>104 500</td>
<td>73 250</td>
<td>140 000</td>
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<td>MMed/MDent</td>
<td>336 100</td>
<td>375 230</td>
<td>391 400</td>
<td>200 000</td>
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<td><strong>Total:</strong></td>
<td>1 131 500</td>
<td>1 402 529</td>
<td>1 425 930</td>
<td>1 433 273</td>
<td>1 219 999</td>
<td>1 020 024</td>
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<tr>
<td>No of applicants</td>
<td>113(Jan)</td>
<td>111</td>
<td>135</td>
<td>154 (Jan)</td>
<td>134 (Jan)</td>
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</tr>
</tbody>
</table>

Applications are called for towards the end of the year preceding that for which the allocations are made. In several years, applications have also been called for later in the year, so as to allow new staff members and registrars to make application in the middle of the year. The task group is made up of approximately 21 staff

1.4.2. Individual Research Grants Task Group

The purpose of the task group is to allocate research funds to individual applicants on behalf of the Faculty Research Committee (FRC) generally on an annual basis. The funds that are allocated are derived from grants from the FRC and from a number of legacies and funds held for this purpose in the University Foundation. The latter include the Medical Faculty Research Endowment Fund and the Iris Ellen Hodges Cardiovascular and Stress Funds. For a period of four years, starting in 2008, specific funding was also obtained from the University Research Committee (URC) to assist MMed/MDent candidates with their research, however this specific funding was discontinued at the end of 2011. Thus the amount of funding available in 2012 for individual grants was the lowest as it has been for many years and resulted in a cut back in the individual allocations (see below).
members drawn from as diverse a range of disciplines as possible, so as to be able to review applications from all disciplines. Each reviewer is likely to be asked to review approximately 15 applications as each application is reviewed by two primary reviewers.

New and junior researchers (postgraduate students) are primarily funded through the Medical Faculty Research Endowment Fund with amounts which vary between a maximum of R4000 for Masters projects and R8000 for PhD proposals. Ne members of staff (those who have not applied for funding for more than three years) or staff members starting a research career are supported mainly from the FRC grant to a maximum of R8000. Top-up funding is also available for those staff members applying to the NRF and MRC provided they are not awarded more than R40 000 from the statuary bodies. These amounts are very small and some would contend too small to be of any value to the researcher or postgraduate student, however they are the only funding available through the FRC for these purposes and are thus seen by the researchers as a token of support by the University.

The FRC is indebted to the reviewers and the administrator (Mr Moraba Meela) for their hard work to ensure the process runs as smoothly as possible and the Chairman of the Committee would like to take this opportunity to thank all the reviewers for their dedication and hard work.

1.4.3. Conference Travel Task Group

<table>
<thead>
<tr>
<th>2012 BUDGET</th>
<th>R 450 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total funding requested by applicants</td>
<td>R 1 126 831</td>
</tr>
<tr>
<td>Total number of applications received</td>
<td>55 (excluding 3 withdrawn applications)</td>
</tr>
<tr>
<td>Total number of applications funded</td>
<td>42 (76%)</td>
</tr>
<tr>
<td>Total spent</td>
<td>R 414 776 (92% of budget)</td>
</tr>
<tr>
<td>Local conference</td>
<td>10</td>
</tr>
<tr>
<td>Regional sub Saharan conferences</td>
<td>4</td>
</tr>
<tr>
<td>Europe and North Africa</td>
<td>15</td>
</tr>
<tr>
<td>North America, Asia, Australia</td>
<td>13</td>
</tr>
<tr>
<td>Total number of applications rejected</td>
<td>14</td>
</tr>
<tr>
<td>Rejection rate</td>
<td>24%</td>
</tr>
</tbody>
</table>

Reasons:
- No publication from previously funded conference (2)
- Late applications (6) - Deadline for submission is 6 weeks prior to the conference
- Not full time Wits staff members (4)
- Ineligible since received funds for an international conference in 2011 (2)
- Other source of funds sufficient to cover conference costs

Applications were reviewed on an ad hoc basis.
The electronic submission and committee review system, instituted in 2011, continues to work very well.

The travel application guidelines and the application form were revised in November 2012 and uploaded onto the Wits website.
I would like to thank the members of my task group, Professors Viness Pillay, Maureen Coetzee, Lionel Green-Thompson and Drs Heleen van Aswegen and Jerome Loveland for their time in reviewing the applications. I appreciate their input and wise council in making funding decisions.

I would also like to extend my sincere thanks to Mr Moraba Meela for his efficient administrative assistance and support.

For Faculty funding of Postgraduate Travel to Congresses, please see WHC Dividend, (section 1.3.8.2).

1.4.4. Faculty Research Prize Task Group

Six publications were received for consideration for the award.

Four were not eligible for the following reasons:
- One applicant was not from Wits at the time of the publication and Wits is therefore not acknowledged
- One publication had been submitted the previous year
- Two publications appeared in January 2012 and could not be considered for the 2011 prize

The Cleaton-Jones/Meyers parameters were applied to the remaining two publications and scores were generated. Both publications were also evaluated by all the committee members, except for Professor John Pettifor, since he was co-author on one of the publications. A unanimous decision was reached by the remaining committee members.

The research prize was awarded to Dr Kebashni Thandrayen from the MRC/Wits Developmental Pathways for Health Research Unit in the Department of Paediatrics for a publication in the Journal of Bone and Mineral Research entitled: “Heterogeneity of fracture pathogenesis in urban South African children: The Birth to Twenty cohort.”

I would like to thank my committee members (Professors Alan Rothberg, Nigel Crowther and Dr Heleen van Aswegen) for their input in evaluating the publications.

I would also like to thank Mr Moraba Meela for his efficient administrative assistance.

1.4.5. Research Day Task Group and Postgraduate Expo

1.4.5.1. Research Day Task Group

The full report of the Chairman of the Research Day Task Group can be obtained from the Faculty Research Office (HSRO).

1.4.5.1. Background and overview

The 2012 Faculty of Health Sciences Research Day and Postgraduate Expo (RD) was held on the 19th September 2012 and represented the culmination of over 14 months of meticulous planning and aggressive fund raising. RD 2012 was held under the auspices of the Wits90 celebrations which commemorated the 90th birthday of the University and was distinguished from previous such events in that there was a record number of over 330 abstracts submitted. The event was held at the Wits Medical School campus with the entrance and foyer area being used as exhibition space. The abstracts received for RD 2012 were divided amongst five thematic areas, these included Infectious Diseases; Molecular and Comparative Biosciences; Education, Policy, Systems; Clinical Research and Therapeutics for Health; Diseases of Lifestyle. The event was held in the spirit of celebrating the Faculty’s achievements in research, which was further reflected in the record number of abstract submissions and overall increased attendance by researchers, exhibitors, government
officials, senior visitors from other Faculties and senior University staff. This report reflects a summative narrative of the events, experiences and problems encountered during planning for the event and some recommendations to improve future such events.

1.4.5.1.2. Organization and planning

The planning of RD 2012 was undertaken by the RD Committee with significant assistance from the Postgraduate Expo committee, chaired by Professor Beverly Kramer. The RD committee elected theme leaders, who undertook the management of the individual themes, abstracts submissions to these themes and selection of oral presentations. The members of the RD 2012 committee are indicated below:

Dr Bavesh Kana (Chair)
Professor Savvas Andronikou
Professor Daynia Ballot (Theme Leader: Clinical Sciences and Therapeutics for Health)
Dr Oluwafolajimi Fadahun (Theme Leader: Education, Policy, Systems)
Mr Jason Hemingway (Theme Leader: Molecular and Comparative Biosciences)
Professor Beverley Kramer (Representative from the Postgraduate Expo)
Dr Edmore Marinda (Theme Leader: Education, Policy, Systems)
Mrs Philippa McKechnie (Research Office)
Mr Moraba Meela (Research Office)
Dr Frederic Michel (Theme Leader: Disease of Lifestyle)
Ms Sandra Pretorius (Theme Leader: Disease of Lifestyle)
Ms Tshwarelo Modika (Research Office)
Dr Sugeshnee Pather (Theme Leader: Infectious Diseases)
Dr Gary Reubenson (Theme Leader: Education, Policy, Systems)
Ms Vivienne Rowland (Wits Communications)
Ms Nomfundo Sibiya (Research Office)
Professor Aimee Stewart (Theme Leader: Clinical Sciences and Therapeutics for Health)
Dr Marco Weinberg (Previous Research Day Chair)
Dr Veerasamy Yengopal (Theme Leader: Infectious Diseases)

The RD committee met, on average, once a month for 12 months, with more frequent meetings closer to Research Day. There were also more focused meetings with sub groups to handle specific items such as abstract submission, banner printing, abstract book layout etc. I would like to once again thank the entire RD committee and Postgraduate Expo committee for their sterling effort and hard work. Wits Marketing was also involved in RD from the perspective of printing posters, banners and the helping with the program. No events management companies were enlisted to assist with RD, all of the planning and execution of the event was carried out in-house or with the assistance of above mentioned committees and people specifically mentioned in this report.

1.4.5.1.3. Registration and website

The registration and abstract submission process for RD 2012 was facilitated through a website, hosted in an external domain, with the assistance of a company, E2 Solutions. This company designed and hosted the website for RD for free, as a way of sponsoring the event. The website was designed as per the approved Wits Template and faithfully duplicated the formatting of other internally hosted web pages in the Faculty. Access to the website was made publically available and further facilitated for staff members and students through a link on the Faculty’s home page. The website was used to advertise RD, profile other RD sponsors and mainly as a mechanism to register participants online and accept abstract submissions. E2 Solutions was able to provide
real-time reporting on registration numbers and abstract submissions. Maintenance of the website was completely hassle-free thanks to the professional approach adopted by E2 Solutions, changes were made immediately and the website was rarely down or inaccessible, it operated efficiently and no real time-out problems were reported. Overall, the website made for easy management of abstract and registration information. Calls for abstracts went out in late March with a closing deadline of the last week of May. This deadline was then extended by a further two weeks since the initial call did not garner enough interest.

1.4.5.1.4. Attendance

The 2012 RD was attended by over a 1000 delegates and participants, 822 of these registered online whilst 219 registered on site, on morning of the meeting. The professional breakdown of the attendees is shown in Figure 1. The majority attendance was made up of postgraduate students and academics. There was a relatively poor response from undergraduate students (76 in total) which is problematic when one considers the large undergraduate student body in the Faculty. The RD committee attempted to advertise the event to undergrads and is disappointed in this turnout, new ways of tackling this problem should be sought for the next RD. Since undergraduate students are given the day off for RD, it should be compulsory for them to register and attend RD, a point made by the previous RD chair, Peter Kammerman however, for some reason this information has not been filtered to the entire student body. Other representation included members from trade, local and national governments and clinicians.
1.4.5.6. Research Day 2012 Program

The abstract submissions for RD were organized into the five aforementioned thematic tracks. These tracks were chosen after significant consultation with the RD committee and other members of the Faculty. The tracks were meant to capture the entire breadth of research activity in the faculty and in some cases take full advantage of the cross-disciplinary nature of the work being undertaken. Abstract submissions to the different categories are indicated in Figure 2. The Infectious Diseases theme received the most abstract submissions but it was gratifying to see that the other tracks also received significant support, as evidenced by the fact that there was roughly equal submission across the four remaining tracks. The event was organized into a morning plenary lecture session which followed registration and welcome. This was followed by parallel sessions, lunch, and a poster session. In a departure from previous RDs, the timeslot usually reserved for the afternoon plenary session was used for three round table discussions followed by another parallel session and then finally, the awards cocktail function. Overall, apart from some delays early in the morning with the plenary, the day ran smoothly.
1.4.5.1.7. Plenary Lectures

The day opened with a welcome address from the RD Chair followed by a speech from the Deputy Minister of Health, Dr Gwen Ramokgopa. She highlighted the importance of medical research and its vital role in creating access to health care services for all. She also highlighted the key role that Wits is playing in creating the new generation of transformative health interventions for South Africa.

Subsequently there were two plenary lectures, one given by Dr Jonathan Lewis ‘The Future of Medicine: Faster, Better, Cheaper’. Dr. Lewis, an alumnus of the Faculty is Chief Executive Officer and Director of ZIOPHARM Oncology and has played a leading role in developing several drugs for cancer. Dr Lewis placed substantial emphasis on how technology has influenced changes in health care and how it will bring about even bigger innovations over the next two to three decades. Professor Shabir Madhi, Executive Director of the National Institute for Communicable Diseases (NICD) and Director of the Faculty's Respiratory Meningeal Pathogens Research Unit gave the second plenary lecture titled ‘Vaccinating toward a brighter future for children’. He highlighted the importance of vaccinations in children, especially in rural areas, and the battle for access to vaccines.

1.4.5.1.8. Round Table Discussions

The inclusion of round table discussions was made in attempt to provide a fresh outlook to the RD program and provide the research community with an opportunity to engage in open, frank and meaningful discussion on key health issues in South Africa. Our country faces many unique health challenges which currently threaten to undermine economic, social and technological advancement. The principle scourge has come from the convergence of two deadly, rampant epidemics in the form of tuberculosis (TB) and AIDS. Furthermore, in the context of these infectious epidemics, there is an increase in the prevalence of diseases of lifestyle such as hypertension, cardiovascular disease, obesity and other such debilitating illnesses. The rapid development of new research technologies means that there are numerous options to accelerate the development of new drugs and explore new prevention strategies and treatment modalities. To facilitate discussion around these burning issues, the following round table discussion were held:

**Prevention and Cure - Can we eliminate HIV?**
Discussion leader: Lynn Morris - National Institute of Communicable Diseases/Wits
Penelope Moore – National Institute of Communicable Diseases/Wits
Francois Venter – WRHI
Alex Welte – Stellenbosch University

**Eliminating TB**
Discussion Leader: Gavin Churchyard – Aurum Institute
Bavesh Kana – DST/NRF Centre of Excellence for Biomedical TB Research
Kerrigan McCarthy – Aurum Institute
Neil Martinson – Perinatal HIV Research Unit

**Colliding Epidemics – Africa in Transition**
Discussion Leader: Michèle Ramsay – Sydney Brenner Institute for Molecular Bioscience & NHLS
Brandon Wainwright – Queensland Institute for Molecular Bioscience, Australia
Stephen Tollman – MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt),
Alisha Wade – Wits School of Public Health
Feedback from the discussion leaders confirmed that the round table discussions attracted significant interest and were well attended. There was open and exciting debate.

1.4.5.1.9. Funding for Research Day

By far, the most challenging aspect of RD 2012 was raising sponsorship for the event. The current restrictive fiscal environment limited the ability of many pharmaceutical companies to provide significant sponsorship for the event. Fund raising was first approached by sending out a letter in January 2012 to prospective funders requesting support. This was followed up personal visits to some large companies to request funding. Many companies took a few months to come back. Opportunities for funding were broken down into purchasing of exhibition space, sponsorship for prizes, registration or catering. Opportunities were also offered to companies to sponsor a certain thematic track. The recommendation from the previous Chair was that sponsors be approached in 2011 for the 2012 RD. A couple of sponsors that were approached in 2011 indicated that they could not make any commitment for 2012 during the 2011 fiscal year, in one case there was an indication that the request would not even be considered. This combined with the fact that a significant number of the exhibitors for RD 2012 signed up between June and August 2012, suggests that it may be better to approach sponsors in January 2014 for the 2014 RD. That said, there can be no real harm in approaching sponsors earlier. Sometimes, personal visits do help, in other cases recommendations from people within the Faculty on who specifically to approach in a company are useful. Routine follow-up is necessary to ensure that potential exhibitors do not lose interest in the event. A particularly useful thing to do is to build a list of exhibitors and to use the list when contacting new potential exhibitors. Showing the list to potential exhibitors leaves them with a – “I am getting left out feeling” – and in some way compels them to participate.

A charge of R 6000 was levied on all exhibition space and we received significant interest in this regard. Roche offered to cover the registration costs through a R 100 000 sponsorship – any funds not used directly for registration could be used to offset the other costs for RD. The Wits Health Consortium and MRC also gave significant sponsorship to the event.

1.4.5.1.10. Prizes

Given the high profile of research that is usually presented at RD, and in line with previous RDs, prizes were awarded for the best overall oral (R 20 000) and poster presentation (R 10 000) – both given as FRC travel awards for a conference/research visit – and best student oral (R 5000) and poster presentation (R 2500) for each thematic track, given as monetary awards. Zeiss, Novartis and MRC provided specific funding for prizes. The total value for prizes at RD 2012 was R 187 500. The list of prize winners is given in Appendix C.

1.4.5.1.11. Marketing

The Wits Marketing department was enlisted to help with marketing, printing of banners and the abstract book. Whilst the marketing and advertising of the event by Vivienne Rowland was acceptable, the other services offered by Marketing were incredibly poor and not up to standard. For every request, they complained excessively that they were not given enough time. The most significant problem was that they took that abstract book information from us, when we thought it was ready, and gave it to the printers a week later than the agreed date. They then proceeded, without any consultation with me, to negotiate a delivery date of 19th September from the printers. Eventually, the RD committee had to pay an additional R 22 000 to have the program air freighted so that it could arrive the day before and be packed into the registration bags. This attitude and poor performance by marketing should not be acceptable. My recommendation is not go with Wits Marketing for anything in RD 2014! Their dismissive, unprofessional and inefficient approach to serious requests reflects a deep seated problem in the support services at our University.
1.4.5.1.12. Feedback

An online feedback form, using our website was sent to all participants. We received a poor number of responses, 65 in total – a stark contrast to the greater than 1000 registrants. There was some problem in collation of the numbers, it would seem that not all the questions were answered by all people, so the numbers did not always add up. This should be considered when reviewing the information. With regards to the question of how satisfied people were, there seemed to be some consensus that RD 2012 met people’s expectations either completely or partially, see Figure 3.

Most people also found the plenaries of average to very good standard, see Figure 4.

A point of concern noted in Figure 5 was that many people did not feel that they had sufficient opportunity to network or that they had got constructive feedback on their work. This is worrying, I am not sure what the reasons are. A simple explanation could be that the day was too busy and people did not get the chance to interact in a more informal/relaxed setting. Perhaps RD 2014 should be held over 2 days. The judges felt that
this would be useful, especially with regards to judging posters, some of this could happen the evening before RD. Another contributing factor could be the composition of the research themes. Some revision of these should be considered for 2014. Participants felt that the cocktail function was not adequately catered and could have been organized better (more chairs for people to sit, better lighting etc). All points to consider for the next RD.

The judges also indicated that they found it difficult to distinguish students from staff. We used red stickers on the student posters but a better way should be sought out. The motivation for people to attend RD is shown in Figure 6, these responses should be considered when advertising for RD 2014 and targeting specific people.

![Figure 5: Participant response to the question, “Why did you attend Research Day?”](image)

**1.4.5.1.13. Concluding remarks**

Overall, RD 2012 was considered to be a huge success. There is always room for improvement in these events and the points mentioned in this report should be considered by the next Chair. I would like to thank all the RD committee members and the members of the Postgraduate Expo Committee for their hard work and perseverance. Well done, everyone!
1.4.5.2. Postgraduate Expo

Once again the Postgraduate Expo was included as part of the Research Day Activities. Numerous exhibitions, ranging from trade to research foundations participated in the event. Working on a scanty budget the team from the HSRO and the HS Postgraduate Office achieved miracles, not only in putting together an exceptional exhibition, but also in celebrating Wits' 90th birthday.

![Staff of the HS Postgraduate Office “manning” the Postgraduate exhibition.](image)

1.4.6 Task Group on Research Entity Productivity

The group was established to investigate and develop an index that would assist in relating FRC allocation of personnel budgets to research entities, and possibly utilize the information in future allocations and reallocations. In this exercise it should be noted that:

- the index is not to be regarded as a direct indication of academic excellence of the entities
- the index is independent of the review processes routinely applied to entities and has no bearing on the outcome of such reviews
- at issue is the fundamental problem of salaries being increased annually at a rate that is higher than that of the URC allocation to the Faculty. This has resulted in a progressive erosion of the amount available to the FRC for travel, grants and RINC allocations. The productivity exercise facilitates an assessment of current funding (FRC and other) vs. entity outputs. As a result we are able to initiate a conversation around cost/budget shifting and sharing

In 2010/11 a process was initiated whereby FRC salary contributions were capped for a cycle and entities expected to provide supplementation. The productivity takes place every 3 years and each 3-year cycle will require a contract/agreement between the entities and the FRC, accepting the contribution to personnel budget for the cycle, and agreeing to it being revised for the subsequent cycle on the basis of the index and FRC finances.

The intention of this exercise is to monitor productivity, maintain posts, admittedly work towards part of the funding burden being put onto the entities, but in return redistribute ‘savings’ back to the productive entities via enhanced publication and graduation Rands/unit. Interim results indicate that >R800 000 has been diverted per annum for redistribution to researchers (± 10% of annual FRC allocation), allowing the FRC to substantially increase the ‘Rands per unit’ value.
The next formal review, analysis and proposals for monitoring productivity and contributions to salary budgets will take place during 2013.

1.4.7 FRC Advisory Board

The FRC Advisory Board met as required. The main task for the year was the drawing up the Faculty Research Goals Document for 2013. This document was agreed to by the Deanery and FRC. The document took into account the requirements for performance management which was being concurrently undertaken by the Faculty. The document can be obtained from the HSRO.

1.4.8. Research Budget Task Group

The FRC received a budget of R9 059 066.00 from the URC in 2012. This was a slight increase (R419 273.00) from 2011.

The distribution of the 2012 budget according to category is illustrated in figure 6. In 2012, R 3 598 379.00 (39.72%) (“capped” amount) of the budget was allocated to FRC posts to Research Entities compared to 41.6% in 2011. Rinc allocations increased to R4 670 000.00 (51.55%) compared to R4 046 414.00 (46.8%) in 2011. Thus, slightly more than half of the FRC budget was awarded to RINC. Once again “capping” of the budget to FRC posts allowed for additional funding to go to individuals.

FRC Individual Grants and Congress Travel were awarded R350 000 (3.86%) each (less than in 2011), while the Research Office received the same amount of R75 000 (0.82%) as in 2011. In order to boost the FRC Individual grants, an amount of R150 000.00 was contributed from a Research Office account. Similarly, an amount of R100 000.00 was added from the FRC Rollover account to the Congress Travel gran which brought this to R450 000 for the year.

![Figure 6: Distribution of the 2012 budget by category](image)

**Faculty specific grants from the URC in 2012:**

Centre for Excellence in TB: R220 000
**NRF Research Niche Grant (Pettifor/Stewart): R75333.00**

**The RINC unit in 2012 was R10 000.00.** The Faculty Budget Task Group reiterated their agreement to raise RINC to R20 000 over the next few years. This is difficult as the URC budget from Council remains at 4% instead of the 6% agreed by Council some years ago.

The WHC income on research was R520 million. The WHC Dividend to the Faculty in 2012 was R1 000 000.00

**Income from WHC in relation to publication outputs:**

**Response to annual question from the URC Review Committee regarding WHC Entities and the ratio of income to outputs. by Professor H. Rees**

The Wits Health Consortium research entities, including WRHI, PHRU and CHRU, are engaged in large-multicentred HIV and TB clinical trials which require thousands of participants, recruited across a number of national and international sites. Follow-up and enrolment of study participants often takes between 3-5 years. The scale of these studies requires substantial financial investment, and the research objectives can only be achieved by employing large teams of researchers and support staff with sites not infrequently having 50-100 staff employed. Trial data is carefully monitored by independent data-safety monitoring boards, and research results are released after the final participant's follow-up is completed which may be several years after the onset of the study. Publications arising from these studies are typically co-authored by study Principal Investigators and senior study researchers. While site-level research staff are acknowledged in publications, they are not classified as being research active and are not included as authors despite being the majority of staff working in a study site. The proportion of research active staff with joint Faculty appointments represents a small number of the total research team but it is against this group that research outputs are measured. Over the last fifteen years, studies undertaken by the WHC syndicates have contributed to a growing understanding of the pathogenesis of HIV and TB, and have resulted in new clinical guidelines and new technologies that have fundamentally changed the way that we manage HIV and TB. The WHC’s large syndicates have a global research reputation and the senior staff are renowned international researchers. Against this background, the WHC larger syndicates have been very active researchers, publishing in high impact journals with significant public health impact.

**1.4.8.1. Faculty Research – Various Budgets**

**1.4.8.1.1. Rollover**

An amount of R500, 000.00 from the rollover account was provided to the Faculty Research Office in 2012. Table 3 below illustrates the distribution of this funding.

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Budget</th>
<th>Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancing research outputs</td>
<td>Contribution to FRC Congress Travel for staff</td>
<td>R100 000</td>
<td>R50 000</td>
</tr>
</tbody>
</table>
Enhancing collaborations and database

<table>
<thead>
<tr>
<th>New Staff</th>
<th>R210 000</th>
<th>210 000</th>
<th>R210 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitors</td>
<td>R70 000</td>
<td></td>
<td>R36 946.</td>
</tr>
</tbody>
</table>

Contribution Public Health Journal

| Contribution Public Health Journal | R50 000 | R50 000 |

Contribution Journal Oral Health Sciences

| Contribution Journal Oral Health Sciences | R50 000 | R50 000 |

Contribution hosting IADR

| Contribution hosting IADR | R10 000 | R10 000 |

Contribution SPARC writing retreats

| Contribution SPARC writing retreats | R35 000 | R35 000 |

TOTAL

| TOTAL | Total: R441 946 |

1.4.8.1.2. Project account: funding from URC obtained in 2011: R648 000

An amount of R648 000.00 was received from the URC in 2011. This money was utilized in 2012 as illustrated in Table 4 below.

Table 4: Distribution of money received in 2011

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Strategic Function</th>
<th>Budget</th>
<th>Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancing throughputs and publications</td>
<td>Biennial Research Day Awards</td>
<td>Increases visibility; interdisciplinary collaborations; conference attendance and research output</td>
<td>R200 000</td>
<td>R163’000</td>
</tr>
<tr>
<td>Mini-postdocs</td>
<td></td>
<td></td>
<td>R80 000</td>
<td>R80 000</td>
</tr>
<tr>
<td>Category</td>
<td>Type</td>
<td>Budget: R1 000 000</td>
<td>Contribution to:</td>
<td>Spent</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Statistics Tutors (TC)</td>
<td>R84 000</td>
<td></td>
<td>R43 020 spent up to Sept 2012</td>
<td></td>
</tr>
<tr>
<td>Pages charges</td>
<td>Improving quality of research by encouraging publication in top journals</td>
<td>R70 000</td>
<td>R33 200</td>
<td></td>
</tr>
<tr>
<td>High Impact factor journals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training in systematic reviews - McInerney</td>
<td>Requested R36 400 – awarded R25 000</td>
<td></td>
<td>R25 000</td>
<td></td>
</tr>
<tr>
<td>Marketing and advancement</td>
<td>Research Posters For Bara Hub</td>
<td>R2 523.77</td>
<td>R2 523.77</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Postgraduate Brochure</td>
<td>R4 199.76</td>
<td>R 4 199.76</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Second print</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awards Dinner</td>
<td>Recognition of researchers</td>
<td>R50 000</td>
<td>R25 412.75</td>
<td></td>
</tr>
<tr>
<td>Prestigious Lecture (malaria)</td>
<td>R50 000</td>
<td></td>
<td>R58’378.18</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Retreat</td>
<td>Prof M. Ramsay – request to FRC</td>
<td>R15 000</td>
<td>R15 000</td>
<td></td>
</tr>
<tr>
<td>Research Prize</td>
<td>Kebashni Thandrayen</td>
<td>R10 000</td>
<td>R10 000</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>R 449’ 734.46</td>
<td></td>
</tr>
</tbody>
</table>

**1.4.8.2. WHC Dividend 2012 – R1 000 000.00**

**Table 5: WHC Dividend 2012**

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Budget: R1 000 000</th>
<th>Contribution to:</th>
<th>Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>Capex, see Table 8</td>
<td>R540 000</td>
<td></td>
<td>R313 963</td>
</tr>
<tr>
<td></td>
<td>Additional Capex</td>
<td>R120 000</td>
<td></td>
<td>R282 697</td>
</tr>
</tbody>
</table>
see Table 8(a)

<table>
<thead>
<tr>
<th>Enhancing throughputs and publications</th>
<th></th>
<th>Sub–total: R596 660</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postdocs and postdoc “top-up” for second year (7x 40000)</td>
<td><strong>R240 000</strong></td>
<td></td>
</tr>
<tr>
<td>1. SOPA – Kana</td>
<td>R40 000</td>
<td></td>
</tr>
<tr>
<td>2. SOAS – Manger</td>
<td>R40 000</td>
<td></td>
</tr>
<tr>
<td>3. SOCM – Kramvis/Gopalakrishnan</td>
<td>R40 000</td>
<td></td>
</tr>
<tr>
<td>4. SOTS – Tomar</td>
<td>R40 000</td>
<td></td>
</tr>
<tr>
<td>5. SOPhys – Lease</td>
<td>R40 000</td>
<td></td>
</tr>
<tr>
<td>6. Durand (Choudry)</td>
<td>R40 000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support PGs to Congresses</th>
<th><strong>R100 000</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Green (Physiol)</td>
<td>R8 000</td>
<td></td>
</tr>
<tr>
<td>2. Van Den Berg (SOPA)</td>
<td>R10 000</td>
<td></td>
</tr>
<tr>
<td>3. Ndiaye (Public Health)</td>
<td>R10 000</td>
<td></td>
</tr>
<tr>
<td>4. Frank (Pharmac)</td>
<td>R8 000</td>
<td></td>
</tr>
<tr>
<td>5. Mwegombha (Public Health)</td>
<td>R10 000</td>
<td></td>
</tr>
<tr>
<td>6. Chivandi (Physiol)</td>
<td>R8 000</td>
<td></td>
</tr>
<tr>
<td>7. Spillings (MERU)</td>
<td>R3 000</td>
<td></td>
</tr>
<tr>
<td>8. Pillay (Physiol)</td>
<td>R10 000</td>
<td></td>
</tr>
<tr>
<td>9. Raymond (Physiol)</td>
<td>R8 000</td>
<td></td>
</tr>
<tr>
<td>10. Wainstein (genetics)</td>
<td>R2000</td>
<td></td>
</tr>
<tr>
<td>11. Mufamadi (Pharmacy)</td>
<td>R8 000</td>
<td></td>
</tr>
<tr>
<td>12. Sibiya (Physiol)</td>
<td>R8 000</td>
<td></td>
</tr>
<tr>
<td>13. Booyse (Physio)</td>
<td>R2 000</td>
<td></td>
</tr>
<tr>
<td>14. Matshingaidze (Pharm)</td>
<td>R8000</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special need: Congress EMBO course</th>
<th>Dr Suchard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>R10 000</strong></td>
</tr>
</tbody>
</table>
1.4.8.3. Deans Discretionary Fund: R90 000

Table 6: DDF contribution to research

<table>
<thead>
<tr>
<th>Category</th>
<th>Type</th>
<th>Budget</th>
<th>SPENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing and advancement</td>
<td>Postgraduate Expo</td>
<td>R20 000</td>
<td>R20 392.81</td>
</tr>
<tr>
<td></td>
<td>Biennial Research Report</td>
<td>R45 000</td>
<td>R43 569.43</td>
</tr>
<tr>
<td>Enhancing throughputs and publications</td>
<td>Writing Dyad (Prof Bruce)</td>
<td>R25 000</td>
<td>R25 000</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>R90 000</td>
<td>R88 962.24</td>
</tr>
</tbody>
</table>

1.4.9 Research Major Equipment

Three of the major equipment submissions from the Faculty to the URC were successful in 2012. These are depicted in Table 7 below.

Table 7: Major Equipment – URC CAPEX 2012

<table>
<thead>
<tr>
<th>NAME</th>
<th>SCHOOL</th>
<th>EQUIPMENT</th>
<th>AWARD VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Colleen Flanagan</td>
<td>Physiology</td>
<td>Centrifuge</td>
<td>R446 000</td>
</tr>
<tr>
<td>Professor Viness Pillay</td>
<td>Therapeutic Sciences</td>
<td>Nano spray drier</td>
<td>R759 523</td>
</tr>
<tr>
<td>Professor Ugo Ripamonti</td>
<td>Physiology</td>
<td>Cutting saw and grinding system</td>
<td>R1 279 500</td>
</tr>
</tbody>
</table>

1.4.10 Research Minor Equipment (WHC Dividend)

A sub-committee of the FRC considered applications for funding of minor equipment in 2012. In the first instance, funding was offered as “matched” funding (WHC dividend) towards a URC call for minor equipment
(see Table 8 which depicts successful candidates only). Following the initial funding, a second Faculty call was made for further items of minor equipment and an additional set of individuals were funded, Table 8 (a).

**Table 8: URC CAPEX Minor Equipment – 2012**

**URC Successful Candidates**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SCHOOL</th>
<th>EQUIPMENT</th>
<th>COST</th>
<th>Funding from FRO</th>
<th>Funding from URC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Thereza Coetzer</td>
<td>Pathology</td>
<td>VarioMacs Separator</td>
<td>85 855</td>
<td>Own funding as matched</td>
<td>43 000</td>
</tr>
<tr>
<td>Professor Nigel Crowther</td>
<td>Pathology</td>
<td>Western blotting system</td>
<td>27 200</td>
<td>Own funding as matched</td>
<td>15 000</td>
</tr>
<tr>
<td>Professor Andrea Fuller</td>
<td>Physiology</td>
<td>Research Vehicle(double cab,4 ×2)</td>
<td>265 120</td>
<td>50 000</td>
<td>142 650</td>
</tr>
<tr>
<td>Leonie Harmse</td>
<td>Therapeutic Science</td>
<td>Mini Protein Electrophoresis</td>
<td>41 268</td>
<td>16 000</td>
<td>20 000</td>
</tr>
<tr>
<td>Professor Glenda Gray</td>
<td>Clinical Medicine</td>
<td>Uninterrupted Power Supply (UPS)</td>
<td>157 296</td>
<td>Own funding as matched</td>
<td>100 000</td>
</tr>
<tr>
<td>Dr Robyn Hetem</td>
<td>Physiology</td>
<td>Portable Weather Station</td>
<td>37 330</td>
<td>18 665</td>
<td>21 300</td>
</tr>
<tr>
<td>Dr Maureen Joffe</td>
<td>Public Health</td>
<td>UPS Units</td>
<td>76 194</td>
<td>23 500</td>
<td>25 000</td>
</tr>
<tr>
<td>Professor Anna Kramvis</td>
<td>Clinical Medicine</td>
<td>-86°C Ultralow temperature freezer</td>
<td>133 783</td>
<td>15 000</td>
<td>66 900</td>
</tr>
<tr>
<td>Dr Joanne McVeigh</td>
<td>Physiology</td>
<td>Medison R3 ultrasound machine</td>
<td>99 864</td>
<td>49 932</td>
<td>49 000</td>
</tr>
<tr>
<td>Frederic Michel</td>
<td>Physiology</td>
<td>4 - channel multi Myograph System</td>
<td>77 599</td>
<td>38 800</td>
<td>38 800</td>
</tr>
<tr>
<td>Dr Carolyn Padoa</td>
<td>Pathology</td>
<td>Centurion K241 refrigerated Centrifuge</td>
<td>76 372</td>
<td>Own funding as matched</td>
<td>37 600</td>
</tr>
<tr>
<td>Professor Viness Pillay</td>
<td>Therapeutic Sciences</td>
<td>Leica MZ10F stereomicroscope</td>
<td>299 000</td>
<td>Own funding as matched</td>
<td>151 000</td>
</tr>
<tr>
<td>Jacqueline Brown</td>
<td>Pathology</td>
<td>Re-usable Rubber Moulds</td>
<td>34 132</td>
<td>17 066</td>
<td>17 500</td>
</tr>
<tr>
<td>Professor Lynne A Schepartz</td>
<td>Anatomical Sciences</td>
<td>Aribex NOMAD eXaminer Handheld X-ray system and Planmeca</td>
<td>148 900</td>
<td>30 000</td>
<td>75 000</td>
</tr>
<tr>
<td>Name</td>
<td>School</td>
<td>Equipment</td>
<td>Contribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms. Tanya Augustine</td>
<td>Anatomical sciences</td>
<td>Monochrome camera with fluorescent imaging software</td>
<td>33 473</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Alexio Capovilla</td>
<td>Pathology</td>
<td>HiLoad 16/600 superdex 200 PG, 120ml pre-packed XK column</td>
<td>30 135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Thereza Coetzer</td>
<td>Pathology</td>
<td>Benchtop orbital shaker</td>
<td>22 036</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Robyn Hetem</td>
<td>Physiology</td>
<td>Nonin-medair lifesense (spO2 &amp; CO2)</td>
<td>30 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Yasmien Jeenah</td>
<td>Clinical Medicine</td>
<td>Incotherm Incubator 400litre digital incubator</td>
<td>20 550</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Viness Pillay</td>
<td>Therapeutic Sciences</td>
<td>SevenMulti Modular Expansion pH, conductivity, Ion &amp; ISFET inLab expert Pro/731 meter system</td>
<td>39 284</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Benjamin Rey</td>
<td>Physiology</td>
<td>Night vision monocular</td>
<td>35 700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Mohammed Tikly</td>
<td>Clinical Medicine</td>
<td>GM SA-300H 40 Litre autoclave</td>
<td>39 976</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Robyn Van Zyl</td>
<td>Therapeutic Sciences</td>
<td>Olympus cellSens Dimension</td>
<td>31 043</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>282 697</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Chairman of the FRC Equipment Committee would like to thank the committee members for the enormous amount of work they do in reading applications, providing feedback and actively participating in meetings which are quite strenuous. The committee members in 2012 were: Professors B. Kramer, S. van Vuuren, N. Crowther, S. Norris, J. Pettifor, P. Arbuthnot, Dr B. Kana and Mr J. Hemingway. Some members of the Faculty also participate in URC Capex meetings. Their participation in those meetings too, are greatly appreciated by the Faculty.

1.4.11. MRC Self-Initiated Research Grants (SIRS) grants

Tables 9 (a) and 9 (b) indicate the lists of approved Self-initiated Research Grants (new and renewals) awarded to applicants from the University of the Witwatersrand.

**Table 9 (a): New Grants for 2012**

<table>
<thead>
<tr>
<th>Surname</th>
<th>Title</th>
<th>Initial/s</th>
<th>Project Title</th>
<th>Term</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baeyens</td>
<td>Dr IR</td>
<td>Analysis of <em>in vitro</em> chromosomal radiosensitivity and underlying mechanisms of DNA repair in South African women with breast cancer</td>
<td>3</td>
<td>R 143 000</td>
<td></td>
</tr>
<tr>
<td>Capovilla</td>
<td>Dr A</td>
<td>Redox biology of HIV-1 Envelope glycoprotein (gp 120): Applications in novel antiviral drug design</td>
<td>3</td>
<td>R 122 900</td>
<td></td>
</tr>
<tr>
<td>Carmichael</td>
<td>Prof TR</td>
<td>Genetic counselling, cascade screening and eye examination of relatives of primary-open angle glaucoma patients identified as having MYOC mutations</td>
<td>3</td>
<td>R 145 050</td>
<td></td>
</tr>
<tr>
<td>De Koning</td>
<td>Prof C</td>
<td>Synthesis and biological testing of bifunctional compounds: cis-platin derivatised with imidazo [1,2-a] pyridines possessing activity against cancer.</td>
<td>3</td>
<td>R 91 000</td>
<td></td>
</tr>
<tr>
<td>Stewart</td>
<td>Prof AV</td>
<td>Functional outcomes after a major lower limb amputation (LLA) in Johannesburg: a single blinded randomized controlled trial</td>
<td>3</td>
<td>R 77 413</td>
<td></td>
</tr>
<tr>
<td>Pillay</td>
<td>Prof V</td>
<td>An Implantable Polymeric Configuration for application in AIDS Dementia Complex</td>
<td>3</td>
<td>R 102 000</td>
<td></td>
</tr>
<tr>
<td>Libhaber</td>
<td>Dr EN</td>
<td>Effect of diuretic therapy on central aortic pulse pressure and the component waveforms in mild-to-moderate hypertensives of African ancestry</td>
<td>3</td>
<td>R 126 000</td>
<td></td>
</tr>
<tr>
<td>Myezwa</td>
<td>Dr H</td>
<td>Risk factors and the effect of physical activity modification for ischemic heart disease in individuals living with HIV</td>
<td>2</td>
<td>R 106 883</td>
<td></td>
</tr>
<tr>
<td>Naicker</td>
<td>Dr S</td>
<td>The prevalence and progression of chronic kidney disease in HIV-infected South Africans</td>
<td>3</td>
<td>R 149 574</td>
<td></td>
</tr>
</tbody>
</table>
Table 9 (b): Renewals for 2012

<table>
<thead>
<tr>
<th>Surname</th>
<th>Title</th>
<th>Initials</th>
<th>Project Title</th>
<th>Start yr</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbuthnot</td>
<td>Prof</td>
<td>P</td>
<td>Developing RNA interference based therapy for persistent hepatitis B virus infection</td>
<td>2010</td>
<td>R 110 000</td>
</tr>
<tr>
<td>Avidon</td>
<td>Dr</td>
<td>I</td>
<td>A comparative study into the bone health of South African pre-pubertal Black and White children who participate in physical activities with different amounts of skeletal loading</td>
<td>2011</td>
<td>R 43 000</td>
</tr>
<tr>
<td>Crowther</td>
<td>Prof</td>
<td>N</td>
<td>An investigation of the metabolic, Hormonal and anthropometric characteristics of the menopausal transition in black urban South African women</td>
<td>2011</td>
<td>R 150 000</td>
</tr>
<tr>
<td>George</td>
<td>Dr</td>
<td>J</td>
<td>Vitamin D status and cardiometabolic risk factors in black African and Indian populations of South Africa</td>
<td>2011</td>
<td>R 66 000</td>
</tr>
<tr>
<td>Kramvis</td>
<td>Prof</td>
<td>AK</td>
<td>The molecular and functional characterization of hepatitis B virus (HBV) genotypes isolated from human immunodeficiency virus (HIV) infected southern Africans: part II</td>
<td>2011</td>
<td>R 114 737</td>
</tr>
<tr>
<td>Laburn</td>
<td>Prof</td>
<td>H</td>
<td>Pathophysiology of warning and memory impairment during sickness behavior</td>
<td>2011</td>
<td>R 120 000</td>
</tr>
<tr>
<td>Majane</td>
<td>Dr</td>
<td>O</td>
<td>Does an excess adiposity enhance the adverse effects of conventional, 24-hour or central blood pressure on carotid intima media thickness in a population sample of African ancestry?</td>
<td>2011</td>
<td>R 75 000</td>
</tr>
<tr>
<td>Norton</td>
<td>Prof</td>
<td>G</td>
<td>The pathogenesis of cardiovascular damage in randomly selected nuclear families of African descent in the African Program on Genes in Hypertension (APOGH)</td>
<td>2011</td>
<td>R 65 000</td>
</tr>
<tr>
<td>Weinberg</td>
<td>Prof</td>
<td>M</td>
<td>Using a combinatorial RNA Interference-based gene expression systems to inhibit Human Immunodeficiency Virus Type 1 (HIV-1) infection</td>
<td>2010</td>
<td>R 120 000</td>
</tr>
<tr>
<td>Weiss</td>
<td>Prof</td>
<td>SFT</td>
<td>Therapeutic antibodies targeting the 37 kDa/67 kDa laminin receptor for the treatment of metastatic cancer</td>
<td>2011</td>
<td>R 131 000</td>
</tr>
<tr>
<td>Woodyiwiss</td>
<td>Prof</td>
<td>A</td>
<td>Impact of haplotype constructs of renin-angiotensin-aldosterone system gene variants on the effects of salt intake, obesity and smoking on conventional, ambulatory and ...</td>
<td>2011</td>
<td>R 75 000</td>
</tr>
</tbody>
</table>

2. RESEARCH OUTPUTS

2.1 Publication Units and additional data on publications

The Faculty has over the last several years shown an increase in publication numbers (Table 10). There has been a 52% increase between 2010 and 2011, and a possible increase between 2011 and 2012 (2012 figures are not yet confirmed). You will note though, that we had a poor year in 2010 with a decrease of 17% in publication numbers. We believe this was due to the poor capturing of publications that year. The capturing of publications remains a concern for the Faculty.
Table 10: Publication numbers and DoHET units for the years 2009 -2012

<table>
<thead>
<tr>
<th>Publication Year</th>
<th>DoHET accredited (articles only)</th>
<th>DoHET units (articles only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>422</td>
<td>245.05</td>
</tr>
<tr>
<td>2010</td>
<td>352</td>
<td>200.08</td>
</tr>
<tr>
<td>2011</td>
<td>535</td>
<td>275.41</td>
</tr>
<tr>
<td>2012 (not final)</td>
<td>663 (with duplicates)</td>
<td>290.74</td>
</tr>
</tbody>
</table>

The conversion of publication numbers per year into DoHET units is approximately half. This is because our researchers collaborate extensively with both local and international researchers. The University has been requested to engage with the DoHET on the loss of subsidy due to collaborations. It appears as though we give our researchers mixed messages – in the Faculty and University we encourage collaborations, yet we get “penalised” for these important collaborations at DoHET level.

Reflected in Table 11 are the publication units awarded by the Department of Higher Education and Training (DoHET) to individual Schools in the Faculty for the period 2005 – 2011 (please note that the confirmed units are always two years in arrears, thus we are allocated units for 2010 publications in 2012).

Table 11: Units awarded to the Faculty of Health Sciences by DoHET for publications submitted for subsidy (2005 – 2011).

<table>
<thead>
<tr>
<th>Schools</th>
<th>Years</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOAS</td>
<td></td>
<td>15.61</td>
<td>18.06</td>
<td>18.1</td>
<td>19.46</td>
<td>7.37</td>
<td>10.31</td>
<td>14.89</td>
</tr>
<tr>
<td>CHSE</td>
<td></td>
<td>1.33</td>
<td>0</td>
<td>0</td>
<td>0.25</td>
<td>0.31</td>
<td>1.50</td>
<td>0</td>
</tr>
<tr>
<td>SOCM</td>
<td></td>
<td>97.66</td>
<td>81.13</td>
<td>109.69</td>
<td>112.44</td>
<td>107.04</td>
<td>89.30</td>
<td>121.76</td>
</tr>
<tr>
<td>SOralS</td>
<td></td>
<td>8.86</td>
<td>7.59</td>
<td>3.93</td>
<td>10.96</td>
<td>4.93</td>
<td>2.00</td>
<td>0.66</td>
</tr>
<tr>
<td>SOPath</td>
<td></td>
<td>50.84</td>
<td>39.58</td>
<td>46.8</td>
<td>56.70</td>
<td>53.34</td>
<td>38.35</td>
<td>62.20</td>
</tr>
<tr>
<td>SOPHY</td>
<td></td>
<td>21.42</td>
<td>14.02</td>
<td>24.2</td>
<td>17.95</td>
<td>23.63</td>
<td>14.84</td>
<td>24.62</td>
</tr>
<tr>
<td>SOPubH</td>
<td></td>
<td>14.89</td>
<td>24.68</td>
<td>33.99</td>
<td>19.14</td>
<td>24.07</td>
<td>22.49</td>
<td>33.01</td>
</tr>
<tr>
<td>SOThSc</td>
<td></td>
<td>12.71</td>
<td>17.68</td>
<td>18.75</td>
<td>22.55</td>
<td>24.36</td>
<td>22.59</td>
<td>25.89</td>
</tr>
<tr>
<td>Total DNE Units</td>
<td></td>
<td>223.32</td>
<td>202.9</td>
<td>255.46</td>
<td>259.45</td>
<td>245.05</td>
<td>199.96</td>
<td>283.03</td>
</tr>
</tbody>
</table>

From Table 11 it should be noted that the Unit output of the Faculty of Health Sciences increased to an impressive 283.03 units in 2011, which is up from 199.96 in 2010.
Figure 7: Department of Higher Education and Training publication units (all DoHET accredited publications) by School for 2011.

A comparison of publication units across the Schools of the Faculty for 2011 is shown in Figure 7.

There is an overall increase in publications units amongst all the Schools in 2011. The output (publications and units) for the Faculty in relation to FTEs is unknown, due to the lack of data on the numbers of joint staff from HR.
The numbers of journal articles, chapters in books and books published in 2011 by School are reflected in Figures 8 – 9.

**Figure 8:** The number of journal articles produced by each School in 2011 (accredited by DoHET; not accredited by DoHET).

**Figure 9:** The number of chapters in books produced by each School in 2011 (accredited by DoHET; not accredited by DoHET).
Figure 10: Analysis of the percentage contribution of publications by entities to Schools (2011 accredited journal articles).

2.2. Most Prolific Authors and citation records in the FHS in 2011

The most prolific authors in the Faculty in 2011 are reflected in Table 12. The calculations were based on publications submitted to the University Research Office in 2011 (accredited by DoHET) plus searches in the following data bases: Scopus, ISI Web of Knowledge and Pubmed.

Table 12: Most prolific authors in the FHS in 2011

<table>
<thead>
<tr>
<th>Author</th>
<th>School</th>
<th>No. of Papers</th>
<th>Author</th>
<th>School</th>
<th>No. of Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madhi SA</td>
<td>Pathology</td>
<td>24</td>
<td>Cohen C</td>
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<tr>
<td>Norris SA</td>
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<tr>
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<td>Field</td>
<td>Publications</td>
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<td>5</td>
<td>Yengopal V</td>
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</tbody>
</table>

There was a marked increase in the number of publications produced by our top authors. In 2010, the most prolific authors contributed 16 publications each, whereas in 2011, six of our researchers were above this level and a greater number of researchers produced either five or four publications each. All the authors should be congratulated on their striking achievement.
### 2.3. Most cited publications in the Faculty recorded in 2012

**Table 13:** Most cited publications in the FHS based on the ISI Web of Knowledge and Scopus in a 10 year period (2002 – 2012).

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Year</th>
<th>Source title</th>
<th>Impact Factor</th>
<th>Cited</th>
<th>Document Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Journal</td>
<td>Year</td>
<td>Pages</td>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>---------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
</tbody>
</table>

### 2.4. Faculty of Health Sciences (FHS) articles published in some of the highest impact factors journals in 2012

Table 14: FHS articles published in some of the highest impact factors journals in 2012. Information derived from ISI Web of Knowledge (with cutoff of IF 20 and above).

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Year</th>
<th>Source title</th>
<th>Volume, issue, pages</th>
<th>Impact factor</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Year</td>
<td>Journal</td>
<td>Volume, Issue, Pages</td>
<td>Score</td>
<td>Type</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
<td>----------------------------------</td>
<td>-----------------------</td>
<td>-------</td>
<td>------</td>
</tr>
</tbody>
</table>

Note bene: In order to assist the FRO in “tracking” publications and in order for the DoHET to accredit publications to the University, the FRO would once again like to appeal to all researchers to ensure that the description “Faculty of Health Sciences, University of the Witwatersrand” appears as part of their address on all publications.
Articles in High Impact Factor journals

While the Faculty would like to increase its research publication output, it has always been more aware of the importance of producing quality rather than quantity.

However over the last few years, more of our staff has been publishing in high impact factor journals in their own particular disciplines. As an example eight articles in 2012 appeared in either the New England Journal of Medicine (IF: 53.3) or the Lancet (IF: 38.2), while the most cited publication in the Faculty for the period 2010-2012 had been cited 1750 times. Of our 2011 accredited publications (n=536):

- 339 (63.24%) were published in journals with an impact factor of more than 2
- 224 (41.79%) were published in journals with an impact factor of more than 3
- 34 (6.34%) were published in journals with an impact factor of more than 7.

2.5. International and national collaborations

Table 15: International and national collaborations of FHS authors on 2011 publications.

<table>
<thead>
<tr>
<th>Collaborations</th>
<th>No. of papers</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institute for Communicable Diseases</td>
<td>50</td>
<td>RSA</td>
</tr>
<tr>
<td>University of Cape Town</td>
<td>43</td>
<td>RSA</td>
</tr>
<tr>
<td>London School of Hygiene &amp; Tropical Medicine</td>
<td>24</td>
<td>UK</td>
</tr>
<tr>
<td>University of KwaZulu-Natal</td>
<td>20</td>
<td>RSA</td>
</tr>
<tr>
<td>South African Medical Research Council</td>
<td>19</td>
<td>RSA</td>
</tr>
<tr>
<td>Universiteit Stellenbosch</td>
<td>19</td>
<td>RSA</td>
</tr>
<tr>
<td>National Health Laboratory Services</td>
<td>18</td>
<td>RSA</td>
</tr>
<tr>
<td>Universiteit Gent</td>
<td>18</td>
<td>Belgium</td>
</tr>
<tr>
<td>Universiteit van Pretoria</td>
<td>18</td>
<td>RSA</td>
</tr>
<tr>
<td>Fred Hutchinson Cancer Research Center</td>
<td>13</td>
<td>USA</td>
</tr>
<tr>
<td>University of California</td>
<td>13</td>
<td>USA</td>
</tr>
<tr>
<td>Columbia University in the City of New York</td>
<td>12</td>
<td>USA</td>
</tr>
<tr>
<td>Johns Hopkins University</td>
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<td>USA</td>
</tr>
<tr>
<td>Makerere University</td>
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<td>Uganda</td>
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<tr>
<td>The University of North Carolina</td>
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<td>USA</td>
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<tr>
<td>Emory University</td>
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<td>USA</td>
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<tr>
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</tr>
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<td>University of Zimbabwe</td>
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<td>Zimbabwe</td>
</tr>
<tr>
<td>Centers for Disease Control and Prevention</td>
<td>9</td>
<td>USA</td>
</tr>
<tr>
<td>Kenya Medical Research Institute</td>
<td>9</td>
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</tr>
<tr>
<td>University of Western Australia</td>
<td>9</td>
<td>Australia</td>
</tr>
<tr>
<td>Boston University</td>
<td>8</td>
<td>USA</td>
</tr>
<tr>
<td>National Institute of Allergy and Infectious Diseases</td>
<td>8</td>
<td>USA</td>
</tr>
<tr>
<td>Organisation Mondiale de la Santé (WHO)</td>
<td>8</td>
<td>Switzerland</td>
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<tr>
<td>Umeå universitet</td>
<td>8</td>
<td>Sweden</td>
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<tr>
<td>University of Limpopo</td>
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<td>RSA</td>
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<tr>
<td>University of Washington</td>
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<td>USA</td>
</tr>
<tr>
<td>The Johns Hopkins School of Medicine</td>
<td>7</td>
<td>USA</td>
</tr>
</tbody>
</table>
2.6. Funding received from SPARC via the URC in 2012 for increasing ISI publications

The Faculty of Health Sciences was provided with **R410 000** of the R2 million provided by the SPARC Committee to the URC.

A call for applications from researchers in the Faculty was made in late March with a deadline for applications of April 20, 2012. Awards were made by a Faculty Committee at the end of April 2012. Applications were only accepted if accompanied by a supporting letter from the Head of School and needed to align with one of the following areas:

1. Short (2 to 3 day) writing retreats or “spaced-day” writing retreats for academics to complete research paper/s which are currently in progress. These are not method workshops but writing periods that
allow completion of a paper or conversion of a conference presentation into an actual paper. These retreats can be facilitated by mentors of suitable calibre and background eg retired mentors. **Each delegate attending the retreat must produce a paper** to be submitted to a journal **on the ISI list**. The outcome of the retreat should be at least **one paper (non-shared) per academic participant**. The total expenditure on mentors not in current University staff posts should not exceed R1 000 per day excluding cost of accommodation. The total cost of the accommodation and subsistence should not exceed R750 per delegate per day.

2. Support for an academic/s who is/are currently in the process of bringing a paper(s) to readiness for submission to a journal **on the ISI list**. The support (which must be defined) can include the payment for teaching time off, financial support to use research equipment/statistical packages not available at Wits or similar. The value of the proposed support could be up to R10 000 per academic.

3. Any other proposal that will lead to submission of a paper(s) **to an ISI journal**, with at least **one paper per academic participant in the proposal**. This could include page charges to high impact factor journals. An amount of up to R10 000 per each proposed paper will be considered. The nature of the support must be specified.

Only in a few cases, were applicants not funded. The majority of the applications were for writing retreats (either facilitated or non-facilitated), two software packages for “special” statistics and seven articles, for which page charges were requested. The amount distributed exceeded the R410 000 received from SPARC. The Faculty Research Office provided the extra funding.

| Spent: | R466 500.00 |
| Budget from URC: | R410 000.00 |
| Extra provided by FRC: | R 56 500.00 |

**Yield:**
The SPARC writing retreat and page charge initiative resulted in **186 (see Table 16) publications** being accepted/submitted/ in preparation (of these 24 from the School of Oral Health Sciences are DNE: the rest are mainly ISI) (see **detailed report Table 16**). While we cannot presume that these publications would not have been produced without the SPARC funding, we believe the outcome to be substantial for the amount invested; at a cost of approximately R2400 per paper the return is huge. If all these papers are accepted, this will bring in approximately R23 million in subsidy to the University.

<p>| <strong>Table 16: SUMMARY OF SPARC PUBLICATIONS 2012</strong> |
|---|---|---|---|
| <strong>Department/School/group</strong> | <strong>WRITING RETREAT (PUBLICATIONS) ACCEPTED, SUBMITTED, IN PREPARATION</strong> | <strong>PAGE CHARGES</strong> | <strong>BUDGET</strong> |
| 1 | School of Physiology (Woodiwiss group) | 2 | R12 000 |</p>
<table>
<thead>
<tr>
<th></th>
<th>School of Public Health</th>
<th>26</th>
<th>R29 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>School of Clinical Medicine (Kramvis Group)</td>
<td>11</td>
<td>R40 000</td>
</tr>
<tr>
<td>4</td>
<td>PHRU</td>
<td>7</td>
<td>R41 000</td>
</tr>
<tr>
<td>5</td>
<td>School of Physiology (Erlwanger &amp; Chivandi)</td>
<td>4</td>
<td>R5 000</td>
</tr>
<tr>
<td>6</td>
<td>Department of Physiotherapy (Stewart Group)</td>
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</tr>
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<td>7</td>
<td>School of Therapeutic Sciences Casteleijn</td>
<td>software</td>
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</tr>
<tr>
<td>8</td>
<td>School of Therapeutic Sciences Franzsen</td>
<td>1</td>
<td>R3 000</td>
</tr>
<tr>
<td>9</td>
<td>School of Pathology (Willem Group)</td>
<td>3</td>
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</tr>
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<td>11</td>
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<td>2</td>
<td>R20 000</td>
</tr>
<tr>
<td>12</td>
<td>School of Clinical Medicine Menezes</td>
<td>2</td>
<td>R10 000</td>
</tr>
<tr>
<td>13</td>
<td>School of Pathology (MERU Group)</td>
<td>14</td>
<td>R40 000</td>
</tr>
<tr>
<td>14</td>
<td>School of Physiology Prioreschi</td>
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<tr>
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<td>1</td>
<td>R4 000</td>
</tr>
<tr>
<td>21</td>
<td>School of Therapeutic Sciences (Crouch Group)</td>
<td>12</td>
<td>R44 000</td>
</tr>
<tr>
<td>22</td>
<td>Department of Molecular Medicine (Durand Group)</td>
<td>4</td>
<td>R5 000</td>
</tr>
<tr>
<td>23</td>
<td>Research Office (Kramer Group)</td>
<td>16</td>
<td>R16 000</td>
</tr>
<tr>
<td>24</td>
<td>School of Clinical Medicine (CHSE Group)</td>
<td>6</td>
<td>R20 000</td>
</tr>
<tr>
<td>25</td>
<td>School of Pathology (Kromberg &amp; Krause Group)</td>
<td>10</td>
<td>R40 000</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL:</strong></td>
<td><strong>186</strong></td>
<td><strong>R466 500.00</strong></td>
</tr>
</tbody>
</table>
2.7. NRF Rated Scientists 2012

The Faculty of Health Sciences had 56 NRF rated researchers in 2012 (see Figure 11) (compared with 60 in 2012 and 55 in 2011). Fifteen of these 56 NRF rated researchers were new ratings, see Table 17. Four of the new rated researchers had been rated for the first time. Eleven applied for and received a re-rating.

Table 17: Faculty of Health Sciences NRF Ratings effective from the 1st January 2012

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>First or rerating</th>
<th>School</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baeyens, AJC</td>
<td>Dr</td>
<td>First time</td>
<td>Clinical Medicine</td>
<td>Y2</td>
</tr>
<tr>
<td>du Plessis, M</td>
<td>Dr</td>
<td>Re-rated</td>
<td>Pathology</td>
<td>C2</td>
</tr>
<tr>
<td>Flanagan, C</td>
<td>Dr</td>
<td>Re-rated</td>
<td>Physiology</td>
<td>C1</td>
</tr>
<tr>
<td>Gray, DA</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Physiology</td>
<td>C1</td>
</tr>
<tr>
<td>Gray, G</td>
<td>Prof</td>
<td>First time</td>
<td>Clinical Medicine</td>
<td>A2</td>
</tr>
<tr>
<td>Hosie, M</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Anatomical Sciences</td>
<td>C3</td>
</tr>
<tr>
<td>Michel, FM</td>
<td>Dr</td>
<td>First time</td>
<td>Physiology</td>
<td>Y2</td>
</tr>
<tr>
<td>Mitchell, D</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Physiology</td>
<td>A1</td>
</tr>
<tr>
<td>Norris, SA</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Clinical Medicine</td>
<td>C1</td>
</tr>
<tr>
<td>Norton, G</td>
<td>Prof</td>
<td>First time</td>
<td>Physiology</td>
<td>B2</td>
</tr>
<tr>
<td>Paweska, JT</td>
<td>Dr</td>
<td>Re-rated</td>
<td>Pathology</td>
<td>B2</td>
</tr>
<tr>
<td>Phillipps, JI</td>
<td>Dr</td>
<td>Re-rated</td>
<td>Pathology</td>
<td>C2</td>
</tr>
<tr>
<td>Pillay, V</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Therapeutic Sciences</td>
<td>B2</td>
</tr>
<tr>
<td>Ramsay, M</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Pathology</td>
<td>B3</td>
</tr>
<tr>
<td>Tiemenssen, CT</td>
<td>Prof</td>
<td>Re-rated</td>
<td>Pathology</td>
<td>B2</td>
</tr>
</tbody>
</table>

The number of NRF-rated researchers in the Faculty of Health Sciences from 2007 – 2012 is depicted in Figure 11. The number of rated researchers increased steadily in 2012 but has not regained 2010 levels. The decrease in 2012 could be due to the loss of ratings by researchers who chose not to apply for re-rating.
Figure 11: The number of NRF-rated researchers in the Faculty of Health Sciences from 2007 to 2012

3. DST/NRF South African Chairs Initiative

The Faculty proudly hosts five DST/NRF South African Chairs. These are:

- **Professor Viness Pillay**: Chair in Pharmaceutical Biomaterials and Polymer-Engineered Drug Delivery Technologies, School of Therapeutic Sciences: Cycle 2008-2012; renewed for a further 5 years - 2013-2017.

- **Professor Shabir Madhi**: Chair in Vaccine Preventable Diseases, School of Pathology: Cycle 2008-2012; renewed for a further 5 years - 2013-2017.

- **Professor M. Coetzee**: Chair in Medical Entymology and Vector Control, School of Pathology: Cycle 2008-2012; renewed for a further 5 years - 2013-2017.

In addition in 2011, THE DST/NRF created a new call for CHAIRS. The outcome of the applications was announced in early 2012. Two new Chairs were awarded, one in each of the following units: Centre for Health Policy (CHP) (Director: Professor Jane Goudge) and Perinatal HIV Research Unit (Director: Professor Glenda Grey). Professor Gray has since ceded the Chair from PHRU to:

- **Professor Caroline Tiemessen, School of Pathology** whose Chair will be entitled the DST/NRF Chair of HIV Vaccine Translational Research. The cycle for this Chair will be 2013 – 2017.

- **The Chair in Centre for Health Policy** was awarded, but is yet to be filled.
4. POSTDOCTORAL FELLOWS IN THE FHS IN 2012

The number of Postdoctoral Fellows in the Faculty has increased from 21 in 2011 to **26 in 2012** (Table 18). However, the number of Fellows in the Faculty remains low with respect to other Faculties and Universities. There is a need for all Schools and Entities to appoint Postdoctoral Fellows in order to strengthen the research endeavour. The presence of Postdoctoral Fellows in a School is a boost to research productivity. The HSRO continues to host a Postdoctoral Forum on a quarterly basis and a Postdoctoral Symposium every two years (next in 2013).

**Table 18: Postdoctoral Fellows 2012**

<table>
<thead>
<tr>
<th>Postdoctoral Fellow</th>
<th>Research School/Dept/Unit</th>
<th>Supported/Funded by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Alane Emiko Izu</td>
<td>Respiratory &amp; Meningeal Pathogens Research Unit</td>
<td>Wits Health Consortium</td>
</tr>
<tr>
<td>Dr Alison Feeley</td>
<td>Developmental Pathways for Health Research Unit</td>
<td>Medical Research Council</td>
</tr>
<tr>
<td>Dr Ananyo Choudhury</td>
<td>Human Genetics</td>
<td>SPARC Postdoctoral Fellowship</td>
</tr>
<tr>
<td>Dr Aurelie Deroubaix</td>
<td>Hepatitis Virus Diversity Research Programme</td>
<td>Hillel Friedland Postdoctoral Fellowship</td>
</tr>
<tr>
<td>Dr Benjamin Rey</td>
<td>Brain Function Research Group</td>
<td>Claude Leon Foundation</td>
</tr>
<tr>
<td>Dr Celia Hsiao</td>
<td>Developmental Pathways for Health Research Unit</td>
<td>Wellcome Trust, MRC UK</td>
</tr>
<tr>
<td>Dr Charu Tyagi</td>
<td>Wits Advanced Drug Delivery Platform</td>
<td>SARChI grant</td>
</tr>
<tr>
<td>Dr Christopher Ealand</td>
<td>DST/National Research Foundation Centre of Excellence for Biomedical TB Research</td>
<td>Columbia University – Southern African Fogarty AIDS Training and Research Program Fellowship for postdoctoral training</td>
</tr>
<tr>
<td>Dr Deepak Gopalakrishnan</td>
<td>Hepatitis Virus Diversity Research Programme</td>
<td>University Research Committee / National Research Foundation Grant</td>
</tr>
<tr>
<td>Dr Emily Mendenhall</td>
<td>Developmental Pathways for Health Research Unit</td>
<td>Medical Research Council</td>
</tr>
<tr>
<td>Dr Givemore Muhenga</td>
<td>Malaria Entomology Research Unit</td>
<td>National Research Foundation freestanding Postdoc Fellowship</td>
</tr>
<tr>
<td>Dr Hilary Lease</td>
<td>Brain Function Research Group</td>
<td>Claude Leon Foundation</td>
</tr>
<tr>
<td>Dr Ian Murray</td>
<td>Brain Function Research Group</td>
<td>University Research Committee</td>
</tr>
<tr>
<td>Name</td>
<td>Unit/Program</td>
<td>Funding/Grant</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Dr Julia de Kadt</td>
<td>Developmental Pathways for Health Research Unit</td>
<td>DPHRU (Welcome trust &amp; ESRC grants)</td>
</tr>
<tr>
<td>Dr KwangShik Choi</td>
<td>Malaria Entomology Research Unit</td>
<td>Hillel Friedland Postdoctoral Fellowship</td>
</tr>
<tr>
<td>Dr Lomas Kumar Tomar</td>
<td>Wits Advanced Drug Delivery Platform</td>
<td>SARChI grant</td>
</tr>
<tr>
<td>Dr Marta Nunes</td>
<td>Respiratory Meningeal Pathogens Research Unit</td>
<td>Wits Postdoctoral Fellowship</td>
</tr>
<tr>
<td>Dr Melissa Chengalroyen</td>
<td>DST/National Research Foundation Centre of Excellence for Biomedical TB</td>
<td>National Research Foundation</td>
</tr>
<tr>
<td>Dr Nina Patzke</td>
<td>Anatomical Sciences</td>
<td>DAAD / National Research Foundation Grant</td>
</tr>
<tr>
<td>Dr Rajdeep Choudhury</td>
<td>Molecular Medicine and Haematology: Evolutionary Medicine Unit</td>
<td>University Research Committee</td>
</tr>
<tr>
<td>Dr Ranjit Chauhan</td>
<td>Hepatitis Virus Diversity Research Programme</td>
<td>Hillel Friedland Postdoctoral Fellowship (Left in June 2012)</td>
</tr>
<tr>
<td>Dr Richard McFarland</td>
<td>Brain Function Research Group</td>
<td>Claude Leon Foundation</td>
</tr>
<tr>
<td>Dr Sabelle Jallow</td>
<td>Respiratory Meningeal Pathogens Research Unit</td>
<td>RMPRU sponsored scholarship</td>
</tr>
<tr>
<td>Dr Sonja Lauterbach</td>
<td>Plasmodium Molecular Research unit</td>
<td>National Research Foundation Rated Researcher grant / South African Malaria Initiative grant</td>
</tr>
<tr>
<td>Dr Tinevimbo Shiri</td>
<td>Respiratory Meningeal Pathogens Research Unit</td>
<td>SARChI grant</td>
</tr>
<tr>
<td>Dr Yael Dahan</td>
<td>Malaria Entomology Research Unit</td>
<td>National Research Foundation / University Research Committee</td>
</tr>
<tr>
<td>Dr Zena Kimaro</td>
<td>Respiratory Meningeal Pathogens Research Unit</td>
<td>Respiratory Meningeal Pathogens Research Unit</td>
</tr>
</tbody>
</table>
5. EXTERNAL RESEARCH GRANTS and POSTGRADUATE SUPPORT

External funding for the support of staff and postgraduate students who are directly associated with the HSRO are:

5.1 The Connective Tissue Diseases Research Fund (CTDR): Report prepared by Professor M. Tikly

The Connective Tissue Research Fund continues to support high quality research in the area of Rheumatic Diseases. In spite of the relatively small grant of R64 000 in 2011 to only two of the applicants, namely Dr Bridget Hodkinson and Ms Jackie Frost, the funding has directly or indirectly resulted in increased research output both with respect to higher degrees and peer-reviewed publications in 2012, which included:

Higher degrees

a. Dr Bridget Hodkinson – PhD for her thesis entitled “Aspects of Early Rheumatoid Arthritis” (graduated December 2012). This thesis was done by publication including 6 peer-reviewed publications, on which Dr Hodkinson was first author on four papers. She also won the best oral presentation in her category at the Health Sciences Research 2012.
b. Dr Gareth Tarr - MMed (Internal Medicine) research report entitled “HIV infection and rheumatoid arthritis” (graduated July 2012). Dr Tarr is in the process of submitting this work for publication

Publications:

**Ongoing research activities include:**

**PhD:**

a. Genetics of rheumatoid arthritis by Dr Nimmisha Govind. This work is to be submittedly shortly and will include the first study in sub-Saharan Africa on the genome wide associations with rheumatoid arthritis in Black South Africans.

b. Wnt signalling pathways in systemic sclerosis by Ms Jackie Frost. This study is looking at gene expression in affected skin and epigenetics changes.

c. Habitual physical activity in rheumatoid arthritis measured by the Actical accelerometer by Ms Alessandra Prioreschi from the Department of Physiology. She has submitted two papers on the topic and is about to start an exercise intervention study.

**MMed and other non-degrees projects include:**

a. FCgamma receptor IIB polymorphisms in systemic lupus erythematosus (J Frost)

b. Prospective study of admissions of patients with systemic lupus erythematosus at Chris Hani Hospital (Dr S Karolia)

c. Epigenetic changes in systemic lupus erythematosus and systemic sclerosis (Dr P Matatiele)

d. Oxidative DNA damage in systemic sclerosis (Ms Xolani Masuko)

Rheumatology will be presenting 9 papers at the upcoming African Rheumatology Congress in Durban in April 2013.

5.2 The H.E. Griffin Trust - the Colorectal Research Cancer (CRC) Group. Dr G Candy

**NO REPORT SUBMITTED**

5.3. Belgian Technical Cooperation Masters Fellowship

The Belgian Technical Cooperation (BTC) Masters Fellowship is a postgraduate fellowship from the Belgian Technical Cooperation Agency which is the administrator and coordinator for scholarships awarded by the Belgian Directorate-General for Development Cooperation. Since 2004, each year the fellowships have been awarded to four postgraduate students who have obtained admission in one of the Schools in the Faculty of Health Sciences in order to study towards an MSc (Med), MSc (Dent) or MPH degree. The thesis, dissertation or research report must be in the field of HIV/AIDS, Tuberculosis or Malaria. Each fellowship covers tuition fees, accommodation, allowance, research consumables and conference travel for a period of two years.

At the beginning of each year, prospective applicants from the SADC region are invited to apply through the Faculty Research Office which then creates a Selection Committee that is tasked to choose four individuals to be awarded the fellowships. The Faculty Research Office is a liaison between the Belgian technical Cooperation agency and the fellowship recipients. The Belgian technical Cooperation agency deposits the funds into a Faculty Research Office account that is managed by Wits Health Consortium, under the syndicate name FAHS Faculty Research. In turn, the fellowship recipients make claims against their allocated funding
through the Faculty Research Office. Towards the end of each year, the Faculty Research Office submits annual financial reports with narrative reports from the recipients of the fellowships to the Belgian Technical Cooperation Agency.

<table>
<thead>
<tr>
<th>Name</th>
<th>Programme</th>
<th>School</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angela Harrison</td>
<td>MSc</td>
<td>Pathology</td>
<td>Prof M Papathanasopoulos</td>
</tr>
<tr>
<td>Alisje Steyn</td>
<td>MSc Med</td>
<td>Pathology</td>
<td>Prof T Coetzer</td>
</tr>
<tr>
<td>Mohlalefi Makara</td>
<td>MSc</td>
<td>Physiology</td>
<td>Dr C Flanagan</td>
</tr>
<tr>
<td>Nasreen Mahomed</td>
<td>Mmed</td>
<td>Clinical Medicine</td>
<td>Prof S Andronikou</td>
</tr>
</tbody>
</table>

Each recipient received a total of R109 378.08 to be spent over the period of two years (2012-2013).

6. HSRO RESEARCH SHORT COURSES

During 2012 the HSRO continued to offer a variety of courses for staff, and postgraduate students in the Faculty. These include research methodology, biostatistics (including one-on-one consultations), writing skills and courses for supervisors.

6.1. Research Methodology Courses organized by Associate Professor Elena Libhaber

The lecturers involved in the courses: Geoffrey Candy, Glenda Myers, Deirdre Kruger and Elena Libhaber

6.1.1. Research Methodology and Techniques

These courses were offered on three occasions at Medical School:
I. Department of Surgery (11, 18, 25 January and 2 February),
II. Department of Radiation Oncology (19, 26 January and 2, 23 February) and
III. Department of Nuclear Medicine (8, 15 and 23 March)
The students had to have drafted a protocol by the end of the course.

6.1.2. Scientific Writing workshop by Professor D Mitchell

This course included three modules: Module 1: Writing a review (21 May), Module 2: Writing a thesis, (28 May) and Module 3: Writing a Scientific paper (04 June). The workshops took place at Medical School and were attended by 21 participants (PhDs, MMED/MSc and staff members).

6.1.3. Research Methodology and Statistical Consultations by Associate Professor E Libhaber

During 2012, more than 250 one-on-one consultations were carried out at Medical School and at CH Baragwanath Hospital. Research protocol development (study design, sample size calculations, etc.) and statistical analysis (data entry, data coding, appropriate statistical tests and results interpretation) support were provided. The majority of the consultees were medical doctors or health sciences students requesting advice towards degrees: MMeds, Masters and PhD while staff (for non-degree purposes) constituted approx 20% of the consultations.
6.1.4. Applied Statistics Workshop organized by Associate Professor Elena Libhaber

Lecturers: Geoffrey Candy, Edmore Marinda, Tobias Chirwa, Eustasius Musenge, Benn Sartorius and Elena Libhaber

This workshop is hands-on, working on the students own database or a database from a field in which they are involved. The intention of the workshop is to provide guidance and understanding of basic statistical concepts in order to accomplish postgraduate degrees and/or publications using the statistical packages STATISTICA or STATA.

This workshop was offered four times in 2012 at Medical School and at CH Baragwanath Hospital for PhDs, MMed/MSc and staff members.

- 6-10 February at Computer Lab. Medical School with 22 attendees
- 18, 25 July and 1 August at Computer Lab. Learning Centre, CH Baragwanath Academic Hospital, 31 attendees
- 29 October - 2 November at Computer Lab. 10th Floor Public Health, Medical School, with 26 attendees
- 18, 25, June, 2, 9 and 16 July: Applied Statistics for supervisors (29 participants attended the workshop) at Computer Lab. Medical School.

6.2. Research Short Courses and tuition by Associate Professor Elly Grossman (Faculty Research Coordinator)

- Research tuition has been provided to a total of 586 postgraduates.
- Supervisory tuition to 59 staff.
- Supervision Support Group activities has catered to a further 152 staff and the drawing up of a co-supervision document which will serve to optimise co-supervisory activities.

A. SUNDAY SCRIBE

These unique one-on-one, thirty minute to one-hour consultations were held with postgraduates on writing problems. Nine Sunday sessions were held with 45 consults. Of these, 22 have been PhDs and 23 Master's candidates. The facility has also been used by FHS staff. Consults have ranged from protocols, problems with writing or layout of the thesis/dissertation/research report, to publications and assisting with drafting of papers arising from research towards the degree.

B. COURSES

Course - EXPD7000

Twenty nine students attended the course of which nine were MSc(Med) Child Health, course code MMC071, 14 were from Oral Health Sciences (MMC068; MMC057; MMC059) and the remaining six being occasional students and/or PhD candidates. The Course was run by Associate Professor Grossman with inputs from 14 other staff members. An exam was completed by those requiring the credit (25) which was externally examined by Prof David Gray. All

Course – Research Techniques I, II, III: Chris Hani Baragwanath Hospital

Six afternoons with each session lasting three hours were held and was attended by 37 participants.

Course – “MY THESIS”
A five afternoon course of 15 hours, which covered Chapter content for each section of the thesis, from front matter to appendices. Ten participants.

C. TUTORIALS

Twenty Minute Tutorials

The purpose of these Twenty Minute Tutorials was to highlight aspects of postgraduate research or thesis writing which may be overlooked during supervision, such as Composing a Title; The Scientific Method; Why does my Supervisor not Listen to Me?; Kick-starting your Research etc. The Tutorials were open to anyone interested in research. Thirteen Tutorials were held and 207 students attended. Of special mention is the “Good Studentship” Tutorial. The concept was introduced to make postgraduates aware of their responsibilities as students in much the same way as supervisors are exhorted to be good supervisors.

D. WORKSHOPS

Twelve workshops focusing on research writing, thesis layout, protocol development, converting a thesis to publication were developed. Depending on the topic, participants are encouraged to bring their writing to work on in the practical session. Such Workshops attracted 192 postgraduates and staff.

Workshop - Qualitative research methods

Professor Claire Penn and Dr Jenny Watermeyer of the Health Communication Project, School of Human and Community Development ran a one day multidisciplinary workshop on “Qualitative research approaches in medical context: Some guidelines and examples” on 28th May from 09.00-16.00. Nineteen participants attended.

SUPERVISION

Supervisor Support Group – Associate Professors E.S Grossman and Nigel Crowther:

Three meetings took place with 77 attendees. Debates around co-supervision has resulted in a “Guidelines for Co-supervision” document drawn up which was submitted to the Graduate Studies Committee (Policy) for discussion.

Dr Graeme Codrington guest speaker in “Supervision Week” on August 16th drew a crowd of 75 attendees with his Workshop on “Mind the Gap: Understand and get the most out of different generations”.

The Supervisor Support Group has attracted attendees from other campuses and Faculties because our activities are unique to this Faculty and the programme offers supervisors something they do not get elsewhere.

Novice Supervisor Course

A Novice Supervisor Course was held 13-17th August covering University regulations and supervisory practice to assist newly appointed supervisors within their new institutional roles. Prof Peter Cleaton-Jones gave a guest lecture on ethics and the changing role of supervision over the past 40 years. The course was both didactive and interactive and attracted 21 participants.

Marking a Masters

This popular Workshop attracted 38 staff and students. Presenters who gave of their time to lecture were Professors Aimee Stewart, John Pettifor, Peter Kamerman and Drs Alison Bentley and Eustasius Musenge.
STAFF / POSTGRADUATE ENRICHMENT

Assessing a published article and reviewing a manuscript for a journal
Professors Haroon Saloojee and John Pettifor conducted a 2½ hour Workshop on 31st May entitled “Assessing a published article and reviewing a manuscript for a journal”. Forty-seven staff and postgraduates attended.

6.3. STATISTICAL SUPPORT

6.3.1. INTRODUCTION

The Faculty of Health Sciences Research Office established postgraduate research support to improve postgraduate throughput and the quality of research output. One of such support is the provision of staff and students with biostatistical skills required for research. Such skills are imparted at various levels as outlined below.

6.3.2. ACTIVITIES CONDUCTED

6.3.2.1. Statistics Short Courses

These hands-on courses were offered on an annual basis to support Faculty staff and postgraduate students. However, the year 2012 was unique as an additional statistics short course for supervisors was introduced. Further, postgraduate student tutors were used more frequently for teaching and tutorials, thereby increasing resource personnel in the Faculty. The class sizes ranged from 19-25 participants.

<table>
<thead>
<tr>
<th>Title of Short Course</th>
<th>Dates course offered</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Statistics Methods using Statistica</td>
<td>6- 10 Feb</td>
<td>21</td>
</tr>
<tr>
<td>Advanced Data Analysis with STATA</td>
<td>5, 12, 19 March</td>
<td>19</td>
</tr>
<tr>
<td>Sample Size Calculation</td>
<td>14, 21, 28 May</td>
<td>32</td>
</tr>
<tr>
<td>Applied Statistical Methods using Statistica (for supervisors)</td>
<td>18, 25 June&amp; 2, 9, 16 July</td>
<td>36</td>
</tr>
<tr>
<td>Applied Statistics Methods using Statistica</td>
<td>11, 18, 25 July</td>
<td>40</td>
</tr>
<tr>
<td>Data Entry and Manipulation Using EPI INFO</td>
<td>27 August, 3, 10 Sept</td>
<td>18</td>
</tr>
</tbody>
</table>
6.3.2.2. Statistical consultations

Apart from the short courses, the walk-in statistical consultations held in the Postgraduate Hub offered face to face statistical guidance. From 2012, the number of statistical consultations was increased from two to three days a week, offered from 13:00-17:00 hours and supported by a team of three postgraduate students with an academic background in biostatistics. These tutors assisted on average four students in an afternoon. Further, through appointments, one-on-one statistical consultations were provided to staff members and postgraduate students and were mostly used as referral from tutors for complex statistical problems.

6.3.3. Acknowledgements

We would like to acknowledge the support of the Division of Epidemiology and Biostatistics of the School of Public Health and the statistics tutors for facilitating sessions on the short courses and with the statistical consultations.

7. OTHER RESEARCH MATTERS

7.1. Research Thrusts

7.1.1 Diseases of Lifestyle and Molecular Biosciences Research Thrusts – 2011

NO REPORTS SUBMITTED BY DUE DATE

7.2 WITS/AURUM INITIATIVE

The management committee was constituted and is composed of Professor J. Pettifor, G. Churchyard, B. Kramer, Drs P. Davies and B.Kana and Mr R Jugdaoe. An external member, Mr Prakash Desai, was nominated by Wits. An external member has still to be nominated by Aurum. Development of this initiative has been slow.

7.3. HSRO Ongoing Initiatives

7.3.1. FORUM FOR EMERGENT RESEARCHERS

The Emergent Researchers Group continued in 2012 and provided a forum for discussion and learning among young and early career researchers in the Faculty of Health Sciences. The group, chaired by Professor Marco Weinberg in 2012, met four times a year to hear perspectives from invited speakers on issues particularly pertinent to young and emerging researchers, many of whom are launching into successful independent careers. Speakers in 2012 included Professor Steven Tollman: (“Insight into My Life as a Researcher & Advice to Early-Career Scientists”), Dr Pierre Durand: (“Basic science and clinical research: marriage or divorce?”), Professor Duncan Mitchell: (“Getting going in your own research”) and Professor Alan Rothberg who clarified the pathway for promotion in the University.
7.3.2. PRESTIGIOUS RESEARCH LECTURE SERIES

In 2012, the FRO hosted only one highly successful Prestigious Research Lecture (see below) by Professors Maureen Coetzee and Theresa Coetzer. The lecture was entitled “Towards malaria eradication: Myth or reality?” Sally Braham Public Relations (SBPR) was used as media liaison for promoting the Lecture and the WITS speakers. Media coverage was good, with radio coverage and several print and online articles published before and after the Lecture. Most notable was a feature article on Professors Coetzer and Coetzee, which appeared in the April 25 issue of The Star.

This 7th Lecture was presented by **Associate Professor Thérèsa Coetzer** (Plasmodium Molecular Research Unit) and **Professor Maureen Coetzee** (Malaria Entomology Research Unit and South African Research Initiative Chair: Medical Entomology & Vector Control) in May 2012.

Professor Coetzer explained how the falciparum parasite is constantly adapting; making sure that it draws the maximum from the two hosts it needs to complete its lifecycle: humans, and mosquito species belonging to the genus Anopheles. Professor Coetzee explained how populations of vector species have been effectively controlled in the past, but how the mosquitoes too have developed resistance to many of the insecticides used since the early 1930s.

**Professor Lucille Blumberg** (Deputy Director of the National Institute for Communicable Diseases and an expert on the treatment of malaria) was a gracious and astute critical commentator. **Yvonne Chaka Chaka** (WHO/UNICEF Goodwill Ambassador, Rollback Malaria Ambassador and President of the Princess of Africa Foundation) was our special guest, closing the event with her trademark sparkle. She commended the researchers on their efforts, saying how knowing of their tireless work motivates her in her work as ambassador. She then broke out in song, urging the audience to ask, “What have I done today to make me proud?”
7.3.3. RESEARCH AWARDS DINNER

The fourth annual Faculty Awards Dinner was held in July 2012 at the Hyatt Regency hotel to honour outstanding achievements by researchers within the Faculty over the last year. An award certificate was presented by the Dean, Professor Ahmed Wadee, to researchers who had received recognition in the previous 12 months. These were:

Professor Emeritus Duncan Mitchell, Adjunct Professor Victor Mngomezulu, Professors Lizette Koekemoer, Gavin Churchyard, Viness Pillay, Helen Rees, Hoosen Coovadia, Helen Laburn, Aimee Stewart, Gavin Norton, Maureen Coetzee, Barry Schoub and Savvas Andronikou; Associate Professors Glenda Gray, Caroline Tiemesssen, Shane Norris, Andrea Fuller, Yahya Choonara and Stephen Tollman; Honorary Professors Linda Richter and Rachel Jewkes; Honorary Associate Professor Karen Hofman; Drs. Bhavna Gordhan, Frederic Michel, Edmore Marinda, Kebashni Thandrayen, Heleen van Aswegen, Lois Harden, Ans Baeyens, Basil Brooke, Robyn Hetem, Bavesh Kana, Penny Moore, Sinead Delany-Moretlwe, Witness Mudzi, Mrs Philippa McKechnie, The Cardiovascular Pathophysiology and Genomics Research Unit, the Respiratory and Meningenal Pathogens Research Unit, the Developmental Pathways for Health Research Unit and the Antiviral Gene Therapy Research Unit.

Professor Gavin Churchyard, founder and Chief Executive Officer of Aurum Institute for Health Research and Honorary Professor in The School of Public Health, was invited to deliver the after-dinner talk.

Professor Churchyard spoke on “Going for Gold”, drawing a comparison between researchers and Olympic athletes. Gavin said that the trials and challenges are numerous, but the ultimate achievement is worth the hours of dedication. Using the negative (and yet greatly significant) results of the recent Thibela Study as an example, Professor Churchyard also encouraged researchers to find success in what may at first seem like failure.

Professor Aimee Stewart receiving a certificate of recognition from the Dean of the Faculty, Professor Ahmed Wadee
7.3.4. CARNEGIE ACADEMIC MEDICINE PROGRAMME

Director: Professor J. Pettifor

In 2010, the Carnegie Foundation provided the University of the Witwatersrand with funding for 3 years to attract, train, develop and retain clinicians to pursue an academic and research based career in Medicine. The Programme’s major objective was to allow young specialists the opportunity to obtain PhDs though a structured fulltime programme over two years during which they took unpaid leave from their clinical positions within the Provincial Health services and were provided with a tax-free stipend for the period of two years. The first cohort of four young specialists was selected and enrolled in the programme at the beginning of March 2011, and a further cohort of four was enrolled in August 2012.

By the end of 2012 the first cohort had largely managed to complete their research and had a number of articles submitted to international journals for publication, while the second cohort had obtained both postgraduate committee and ethics committee approvals for their proposed studies, allowing the research to start towards the end of the year in most cases. During their fellowships, the candidates have attended a number of short courses on research methodology, protocol writing, statistics, research ethics, scientific and grant writing, curriculum design and student assessment. Financial support was also provided for the fellows to either attend and participate in an international conference or visit an overseas laboratory.

Overall it is believed that the programme has been uniquely successful and is at the forefront of national efforts to address the long standing decline in clinical research that has been occurring over many years in South Africa.

7.3.5. RESEARCH ENTITY FORUM

This Forum continues to bring the Directors of Research Entities in the Faculty into closer contact with the Faculty, to inform them of issues and engage with them on research matters in the Faculty. The Forum became an official sub-committee of the FRC in 2012.

In 2012, a number of meetings of the Forum were held. Key items discussed were:

- Recognition of Research Entity Forum as Task Group of the FRC
- Wits Websites- Faculty Branding
- Importance of Joint Staff status in entities in relation to subsidy and other applications
- Linking of Centre of Excellence to Research Website
- New Programme in Faculty ‘A Systematic Review initiative for Evidence-based Minimum Intervention in Dentistry (SYSTEM)
- The Funding of FRC posts to Entities
- Faculty publications and the capturing of these.
- Short term posts
- Online journal page charges

7.3.6. Health Sciences Alumni Diaspora Programme – 2012

For the third and final year of the programme, SPARC awarded the HSRO R210 000.00 towards networking with alumni and bring them to Wits. A list of the visitors in 2012/13 is shown in Table 20. As a result of the success of the Diaspora programme, The Carnegie Corporation of New York requested that a concept document be submitted to them for the funding of this programme. The outcome of this request should be known in September 2013.
Table 20: List of the visitors in 2012/13

<table>
<thead>
<tr>
<th>Name</th>
<th>Current institution</th>
<th>Area of expertise</th>
<th>Wits School/Department</th>
<th>Wits host researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Professor Jonathan Hellmann</td>
<td>Faculty of Medicine, University of Toronto, Canada</td>
<td>Neonatal intensive care, medical ethics and medical education</td>
<td>Department of Paediatrics Steve Biko Centre for Bioethics</td>
</tr>
<tr>
<td>2</td>
<td>Professor Denis Daneman</td>
<td>The Hospital for Sick Children, Toronto, Canada</td>
<td>Paediatric endocrinology</td>
<td>Paediatrics</td>
</tr>
<tr>
<td>3</td>
<td>Dr Liza Weavind</td>
<td>Vanderbilt Medical Centre, Vanderbilt University, Nashville, USA</td>
<td>Assoc Prof Anesthesiology, Assoc Prof Surgery Director, Critical Care Fellowship Department of Anesthesiology, Division of Critical Care</td>
<td>Faculty Research Office, the Department of Anaesthesia and the Departments of Surgery, Anaesthesia and Critical Care</td>
</tr>
<tr>
<td>4</td>
<td>Professor Roy Zent and Ambra Pozzi</td>
<td>Vanderbilt Medical Centre, Vanderbilt University, Nashville, USA</td>
<td>Nephrology/Molecular cell biology (cell-ECM interactions in renal branching morphogenesis, integrin function)</td>
<td>Faculty research Office, Molecular Medicine and Haematology, School of Pathology, School of Clinical Medicine</td>
</tr>
<tr>
<td>5</td>
<td>Professor Dilip Parekh</td>
<td>University of Southern California</td>
<td>Cancer and surgery</td>
<td>Department of Surgery/</td>
</tr>
<tr>
<td>6</td>
<td>Dr Jonathan Lewis</td>
<td>Memorial Sloan-Kettering Cancer Centre and Cornell university Medical School</td>
<td>Oncology</td>
<td>Oncology/Faculty Research Day</td>
</tr>
</tbody>
</table>
7.3.7. VANDERBILT COLLABORATION

A team of seven staff members from the Faculty (FHS) visited Vanderbilt Medical School in December 2011 (December 12-15th). Vanderbilt University is ranked at number 61 (Leiden ranking) of all Universities internationally and is said to be the 10th ranked Medical School in the States.

The Wits Team consisted of:
Professor Bev Kramer, Professor Joe Veriava, Professor Pravin Manga, Professor Martin Veller, Dr Bavesh Kana, Dr Neil Martinson and Dr Anna Sparaco

In addition, Dr Geoffrey Candy and Dr Clem Penny, were independently visiting the University during the same period and attended some of the meetings/events.

- The Dean’s Discretionary Fund is gratefully acknowledged for the financial support to six of the group. Dr Sparaco was self-funded.

Reason for the visit:
The association with Vanderbilt Medical School started as a result of the Faculty Research Office’s Diaspora Programme. Through this programme Professor Roy Zent, an alumnus of the Faculty “returned home” in 2010.
and was so enthusiastic about the potential for collaborations at various levels, that he encourage a group from Vanderbilt, under the leadership of their Senior Associate Dean, Professor Bonnie Miller, to visit the Faculty in June 2011. The latter group in turn, were so enthused about possibilities, that a team from Wits was encouraged to pay a return visit to Vanderbilt in 2011.

Aims of visit:
The aims of the visit were broadly to:
1. Explore possibilities for training of Wits postgraduates in research
2. Explore possibilities for research collaborations
3. Explore possibilities for training of Wits postgraduates in clinical skills
4. Investigate the patient database system used at Wits

General information:
The meeting was exceptionally well thought-out and co-ordinated by Professors Bonnie Miller and Roy Zent. They had organized an extremely comprehensive programme (approximately 24 different meetings) which kept the Wits team going at quite a pace (day and night) during the three day visit. An introductory and exit meeting was held with the Wits team. We met with a wide variety of individuals from diverse departments. Most of the individuals held senior positions at the Medical School. The Vice Chancellor of Health Affairs and Dean of Vanderbilt University School of Medicine, Professor Jeff Balser hosted a lunch to meet the Wits Team. The organizers were extremely accommodating and organized additional meetings as and when requested by individuals in the Wits team. All the “Vandy” individuals with whom we met were helpful, friendly, enthusiastic about what they were doing and held the Vanderbilt brand in high esteem. They showed pride at being associated with the university and were at all times extremely positive in their outlook and about the possibilities of collaboration with the Wits FHS. The “pride and enthusiasm” of the Vandy staff and the “branding of their work” as that of Vanderbilt, was something that most people on the Wits team remarked about.

The immediate impression of the Vanderbilt Medical School was that of an institution with an extremely strong research culture (most staff committed to research, active research role models, approximately 500 postdocs in the system, solid and widespread research infrastructure) and strong financial resources.(they receive in excess of $500 000 million dollars in grants).

Summary of where we believe we can collaborate:
1. We did not feel that the collaboration/exchange should be strictly a 1:1 at each level ie a direct exchange of registrars, as the two Institutions have different needs. For example, due to our extensive pool of clinical material and expertise, Wits should be willing to accept registrars/consultants for training, while we would wish to collaborate in other areas eg research, due to the enormous resources at Vanderbilt.

2. With regards to Research, a number of studies/collaborations have already been initiated:
   - **Professor Geoff Candy** will be working with Dr Richard Peek on a study on *H. pylori*. Seed money has already been promised for this project by Vanderbilt.
   - **Dr Clem Penny** is undertaking a project with Dr Ambra Pozzi which is related to angiogenesis. Another project between Prof S Naicker and Prof R. Zent on nephropathy has been initiated.
   - **Dr Neil Martinson** may initiate a project with Dr Tom Cover on assessing an interaction between *H pylori* infection and susceptibility to TB infection and disease. In addition, Dr Martinson has discussed the possibility of hosting a Vanderbilt Infectious Diseases Fellow at Wits to undertake research.
   - **Dr Bavesh Kana** discussed a number of avenues for research and may return to Vanderbilt in February to initiate some of these dependent on funding.
- **Dr David Haas** (VDB) is already collaborating with Professor Ian Sanne and CHRU.
- VDB keen to pursue virology collaborations with **Prof Wendy Stevens** (Maria Pappas and Marco Weinberg)

There is no doubt that the research opportunities are vast and that **numerous collaborations in research** could be set up between the two Institutions eg in both infectious and non-infectious diseases as well as public health (rural programmes) and even in malaria. There was a lot of interest from the Vanderbilt side. Wits has strength and expertise in many research areas which would be of benefit to Vanderbilt. In turn, Vanderbilt has infrastructure which would be helpful to Wits.

Combined funding proposals for research would be an ideal area for collaboration. Vanderbilt may be able to advance some seed funding allowing staff to collaborate on joint applications.

3. **Training in Clinical Research Methodologies:** This was identified as a good area for collaboration. Roy Zent and Ambra Pozzi are already involved with Faculty through the Diaspora Programme (Grant Writing and Scientific Writing courses). However, our School of Clinical Medicine and the Faculty at large could benefit from deriving information from the following:

   - **M.Sc in Clinical Investigations (Alp Ikizler)** – Course (18 months) is structured and results in a postgraduate degree. The course provides the student with the tools to do clinical research studies. *I would like to recommend that we look at the course outline and consider inviting Dr Ikizler to Wits.*

   - **Clinician Scientists Programme (Mike Stein)** – Spoke on the Clinical Pharmacology Research Programme which trains staff for approximately two years, although strong time limit is not imposed. Funding is provided. 80% research: 20% teaching and clinical work. Funding of salaries is 80% from research grants and 20% from clinical services. “Reason that people don’t come to research is that job is not secure. We should negotiate with Province for 50%:50% time”. **Dr Stein suggested that if we could identify promising people, we could send them to him for 2-3 years.**

4. **Electronic Clinical Record System.** There is no doubt that the extensive knowledge and expertise at Vanderbilt in this area would be of huge value to our Faculty. The system has been developed by staff at Vanderbilt and provides a paperless electronic medical record system. The Bioinformatics system comprises

   - **BioVu – electronic medical records linked to a DNA resource.** Wonderful for genomics and pharmacogenomics (drug dosage linked to specific genome). This is really a DNA Biobank, where DNA is extracted from left over blood samples. Patients have the right to **opt-out** of this programme. Currently they have 135,000 samples, 40 active projects utilizing the DNA and more than 100 projects using synthetic derivatives of the DNA. The DNA is de-identified!

   - **Knowledge Map** – curriculum resource, similar to what we saw at Sydney University in the old days of developing our GEMP curriculum. Online system available to students. **Prof Prozefsky may be interested in following up on this.**

   - **RedCap** – this software developed by Vanderbilt is used for capturing data and may be useful for our patient data capturing. It is web-based.

   - **Star-Brite** – this programme is used for tracking clinical trials.

5. **The Patient Safety Programmes** were impressive. This is something that we should consider “copying” at Wits. These systems assist with minimizing direct error and provide for remote patient monitoring.

6. Vanderbilt would be willing to investigate **Honorary /Adjunct appointments** for our visiting staff. Wits should do so too at Honorary level where it will be of benefit to the research endeavour.
7. Undergraduate and Postgraduate training.

- **Undergraduate:** While Vanderbilt offered to host our undergraduates, they would only be able to observe (no hands on and would have to be “sponsored” by a VDB Faculty member). There are 8 places per month between January and June for undergraduates and there was a suggestion that if we are interested that VDB would hold x number of places for us. *We believe this may be better if it could be offered in December.*

- **Postgraduate:** While there would be great value for postgraduates to come to Wits for training in certain clinical areas, it would appear that the need from Wits in relation to clinical skills would only be for occasional, highly advanced clinical interventions eg robotics.

8. **Nursing** - Vanderbilt has a “nurse practitioner” programme which Professor Bruce may wish to investigate.

9. **Vanderbilt Staff who should visit Wits** (besides those who have already been here):

   **Dr Jeff Balser** – possible visit in June combined with a visit from Bonnie Miller and Roy Zent who would like to accompany him. This would be an extremely important visit.

   **Dr Mike Stein** on “How to set up clinical studies” and supporting clinician scientists

   **Dr Alp Ikizler:** Director of the Master of Science in Clinical Investigation Programme. While it was suggested that we send staff to audit Dr Ikizler’s courses, I believe it would be far more beneficial to first investigate Dr Ikizler’s programme and then perhaps bring Ikizler’s team to SA, either to train up staff or to train where deficiencies exist in our existing courses.

   **Dr Dan Roden** – clinical pharmacologist working on personalised medicine

   **Josh Denny** (world expert in bioinformatics), **Bill Stead** and **Paul Harris** to bring us **Redcap**

   **Dr Gordon Bernard:** Senior Associate Dean for Clinical Sciences. Dr Bernard is responsible for promoting and facilitating clinical research.

   **Dr Donald Brady:** Associate Dean for Graduate Medical Education.

It appears from the many discussions we had at all levels that Vanderbilt Medical School would like to develop a MOU with the Wits FHS. This can be developed over time, but I would like to suggest that encouragement should be given to staff to initiate research projects as soon as possible.

I would like to thank the Wits team for giving up precious time to undertake this visit on behalf of the Faculty. Also, their collegiality, dedication and energy over a hectic few days must be acknowledged!

10. **Mrs Rolfe Cathryn Vanderbilt, visit to Medical School**

October 2012: Mrs Rolfe Cathryn (Lawyer, Vanderbilt University and advisor to Professor Jeff Balser, Vice Chancellor, Vanderbilt Medical School), Professor Beverley Kramer, Mrs Sandra Benn, Mrs Louise Du Plooy, Mrs Dawn Taylor (Director: Legal services), Ntibi Maepa (Legal advisor) and Mathoto Senamela (Head of Postgraduate Administration)

**Overview**

Vanderbilt University has an office called the Biomedical Research Education and Training Office which covers all postgraduate students who are not training to get a MD (medical doctor) degree. At Vanderbilt “Postdoctorals” are individuals who are post their MDs.

The United States government started giving out more money to US based Universities to work in developing countries with regards to the HIV/AIDS programme. Vanderbilt University then requested Mrs Rolfe to be an
International lawyer for the Medical side. Thereafter she helped set up a separate company that Vanderbilt uses in Africa, located in Mozambique with ±300 employees and Nigeria with ±100 employees. The two companies’ work with various ministries of health to provide technical assistance to help setup clinic opportunities for those people infected with HIV.

Mrs Rolfe highlighted that the leadership of Vanderbilt had already met with Wits Health Sciences leadership to discuss possible exchanges; the two parties found that it would be mutually beneficial for both the Universities to agree to exchanges in certain programmes and to set up collaborations in IT and research.

Agreed that a programme agreement needs to be drawn for exchange of students going from Wits to Vanderbilt and vice versa.

Early next year (2013), Wits will be sending a staff member to Vanderbilt for training in IT so that after such training the staff member can help with setting up Bioinformatics at Wits.

Reported that Vanderbilt can only have exchange of students and registrars. Currently, consultants can only be exchanged if they have no expectation to do “hands on clinical work” because of the legal boundaries that govern Vanderbilt.

In conclusion it was agreed that the two Universities need to define their needs and as a first step they both need to agree in principle and sign an agreement with principles that govern the partnership between them by the end of 2012.

7.3.8. DEVELOPMENTS IN VANDERBILT COLLABORATION, 2012

Continued interaction and visits with members of staff from Vanderbilt occurred in 2012 (see Table 21) Amongst these were once again Professors Roy Zent and Ambra Pozzi who delivered training sessions in grant writing and scientific writing (Diaspora Programme), Dr Lisa Weavind (Diaspora Programme) who delivered lectures on personalised medicine, a group led once again by Professor Bonnie Miller, Senior Associate Dean of Medicine and importantly Dr John Doulls who delivered lectures and gave advice on the setting up of a Medical Bioinformatics system for the Faculty. A variety of specialists in the field of infectious diseases met with our infectious diseases researchers as well as many emergent researchers. Ms Cathryn Rolfe, Chief Business Officer and Director of International Clinical Initiatives met with members of the Legal Office at Wits as well as the Faculty Registrar and Postgraduate Office staff to initiate the development of exchanges by staff and students. In turn, a number of Wits staff visited Vanderbilt (Professor Ames Dhai, Mrs Sandra Benn) or interacted electronically with Vanderbilt staff (Professor Karen Hoffman, Professor Ugo Ripamonti).

Table 21: Vanderbilt Visitors to Wits: 2012

<table>
<thead>
<tr>
<th>Visitor</th>
<th>Funded by</th>
<th>Task while at Wits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Roy Zent and Dr Ambra Pozzi</td>
<td>SPARC Diaspora account</td>
<td>Grant writing course for Faculty. Scientific writing course for Faculty. Faculty involvement in setting up Wits Vanderbilt collaboration. Ongoing interaction with researchers on grants/Website etc.</td>
</tr>
<tr>
<td>Professor Bonnie</td>
<td>Vanderbilt funding</td>
<td>Gave lectures on: 1.</td>
</tr>
</tbody>
</table>
7.3.9. Visit by Vanderbilt Senior staff, 2012

In 2012, the Wits Faculty of Health Sciences and Vanderbilt University, Nashville, USA formed the Wits/Vanderbilt partnership in training, research and other important educational based imperatives. This was initiated through the setting up of collaboration by Professor Bonnie Miller, Senior Associate Dean, and Professor Roy Zent (Vanderbilt) and Professor Beverley Kramer. In July, Vanderbilt University staff members (Professors Bonnie Miller, Roy Zent, Ambra Pozzi, David Haas, John Doulis and Robert Miller) paid a visit to the Faculty of Health Sciences. The group of teachers and researchers participated in group discussions and individual visits and projects. For further information on the setting up of the Medical Bioinformatics system, see also (section 7.3.10). Dr Johyn Doulis was exceptionally helpful with regards to advice on the Bioinformatics system. As a result of this meeting Wits was given REDCAP, an open source resource which provides a template for the design of a clinical relational database. Interaction with Vanderbilt also resulted in an agreement with the visitors for a Wits Faculty clinician (Dr M. Klipin) to be trained at Vanderbilt in relation to medical bioinformatics systems. The training will occur in 2013.
Current Research Projects which are ongoing:

- **PROJECT TITLE**: Determining the effects of Helicobacter pylori infection on cardiovascular parameters. Associate Professor G. Candy (Surgery, Wits) with Dr Richard Peek (Professor of Medicine and Cancer Biology) and Dr Keith Wilson (Professor of Medicine, Cancer Biology, and Pathology, Microbiology and Immunology Division of Gastroenterology, Hepatology, and Nutrition), both of Vanderbilt.

- **PROJECT TITLE**: Immune modulators of TB and granulomas in HIV-infected adults. Dr Neil Martinson (PHRU, Wits) with Dr Omar Tanvier (Anatomical Pathology, Wits) and Dr Tim Sterling (David E. Rogers Professor of Medicine, Division of Infectious Diseases, Director, Vanderbilt Tuberculosis Center), Dr Christina Fiske (Assistant Professor Infectious Disease-Medicine (Adult)) both of Vanderbilt. The initial plan is to use paraffin embedded stored pathology specimens from patients with well described clinical characteristics to optimise research assays and then to graduate to using recently sampled tissue.

**ADDITIONAL PROJECTS** (Dr Martinson)

Dr Martinson has also collaborated with Dr William Wester on a project assessing the impact of HIV and its treatment on incident renal disease in HIV-infected adults who were followed up in a prospective cohort. We will use demographocs and time varying cahracteristics (CD4 count, ARV treatment, BMI etc) of the patients to ascertain risk factors for renal as evidenced by proteinuria and a reduced eGFR. The study has been approved by the IRB at Vanderbilt in the past month and we will be transferring databases to Dr Wester soon for analysis to start.

**Dr David Haas (Vanderbilt)** has received and analysed specimens from a prospective cohort of pregnant women and children (from Dr Martinson) to ascertain the genetic signature of efavirenz (EFV, an antiretroviral agent) metabolisor status. We have reported results at the IAS Meeting in Washington in 2012. Our team of collaborators from Hopkins, Vanderbilt and PHRU showed conclusively that for the most part women who receive EFV-based HAART do not need an increased dose if they are taking TB treatment and that pregnancy has little impact on EFV levels. In addition we showed that maternal receipt of rifampacin as TB treatment appeared not to impact on infant nevirapine levels.

- **PROJECT TITLE**: Development of the Diagnostic Management Team

Dr Anna Sparaco (Surgery, Wits) with Dr Quentin Eichbaum (Associate Director of Transfusion Medicine and of Pathology, Microbiology and Immunology) and Dr Mike Laposata (Edward and Nancy Fody Professor/Vice-Chair of Pathology, Microbiology & Immunology, Pathologist in Chief for Clinical Services), both of Vanderbilt.
In addition, the Wits HSRO set up a joint Website with Vanderbilt. Visit the site at
http://www.wits.ac.za/academic/health/research%20&%20postgraduate%20offices/researchpartnerships/vanderbiltwits/18703/projects.html

7.3.10. MEDICAL BIOINFORMATICS SYSTEM
Professor M. Veller, Dr M. Klipin and Professor B. Kramer

The University and the Faculty of Health Sciences have long recognized the shortfall in patient record keeping and data capture within the present government academic hospital system. Moreover, we lack the basic IT infrastructure to manage, audit and perform critical clinical research as well as other non-clinical research by not having efficient and effective systems for capturing data.

This has led to a deficit in data for research, particularly with the expansion of the M.Med programme (currently over 600 clinical postgraduate students are registered for a M.Med).

In order to strengthen our capacity for research with regards to publications, postgraduate training and in order to inform policy, IT resources need to be developed. The decreasing costs of computing power and data storage as well the availability of open source software all contribute to cost effective solutions that would have been unattainable in the recent past. Thus Professor Martin Veller and Professor Bev Kramer applied to SPARC and received funding (2011 and 2012) for developing a Medical Bioinformatics System in the Faculty.

Over the past year (2012) we have accomplished the following:

Pilot Project with Wits Health Consortium

Within this framework a web based patient management and database system was piloted in association with the Wits Health Consortium.

In addition, an audit was carried out in the Hospitals which are currently part of the Academic Platform with respect to points of data access and present IT systems within the public healthcare environment.

The web based patient management and research database went online in April 2012. The pilot study population were all patients admitted to the Department of Surgery at the Charlotte Maxeke Academic Hospital. The aim of the pilot study was to capture information at the point of care and determine what the challenges are in doing this efficiently and accurately.

The pilot project was hugely useful in the following regards:

- The complexity of data capture during the clinical passage of a patient through a care institution is significant
- Data capture is possible if it aids the clinician, is user friendly, saves time and makes information recall easier
- Much of what is taken for granted in a functional IT infrastructure does not apply in the Gauteng public hospital environment
- The Wits Health Consortium does not have the necessary capacity to design or manage a suitable database or IT support system of this size and complexity.

Not withstanding the above, the potential benefits to patients and the relevance for basic science and clinical research of an appropriate IT system and database is massive and cannot be underestimated.
Role of Wits Alumni and Vanderbilt University
At the same time, the Faculty Research Office, via alumni (Diaspora Programme – SPARC funded), entered into discussion with, and received advice from, Vanderbilt University, USA (Dr John Doulis, David Haas and team). The latter Institute has an exceptional medical bioinformatics system which could be used as a model for the Faculty and the entire University. Vanderbilt has an IT system which allows interrogation of data for tailored patient management and research from a simple clinical audit to a molecular genetic analysis of pharmacological interactions.

Most clinicians and healthcare researchers at Wits do not have a formal computing or IT qualification. Database development, maintenance and support is an IT sphere of its own. Currently a multitude of clinicians and researchers all have their own databases which they maintain without any formal IT support. These are all independent and isolated and do not compare or share data.

REDCAP
The collaboration with Vanderbilt has resulted in the Faculty acquiring a programme developed by Vanderbilt University but available as an open source resource called REDCAP.

REDCAP is a template for the design of a clinical relational database. Basic server, security and troubleshooting support is provided by Wits staff with support and communication from Vanderbilt.

The REDCAP program has been showcased and made available to researchers in Health Sciences and to date, has over 27 projects underway.

Faculty Database Audit
An audit of the Faculty was carried out with respect to what databases already exist, how they function and how they are maintained. While not comprehensive it became clear that there are many staff within the Faculty all acting independently. Collaboration, idea sharing and collective data analysis is not presently part of the Faculty mindset. All these individuals have been brought together under an umbrella committee to further the aims of the Faculty.

Winchart
A contribution was made to the purchase of Winchart. Winchart is a propriety software package linked to anaesthetic machines that captures relevant clinical data during surgery. This includes theatre patient booking, intraoperative monitoring, pharmacology, surgery, personnel and outcomes after surgery. The costs include hardware support, software support and technical advice on a daily basis. This information will be available to M.Meds and clinicians across disciplines for research.

Hardware
Requests for hardware to support the clinical capture of data to already functional REDCAP databases were considered and supported. The use of computer tablets is particularly suited to the clinical environment due to its portability, ease of data capture. They streamline the process and improve the veracity of the data captured. They allow real time data capture and are effective and efficient.

Provincial Health Authorities and NHLS
Discussions with both the NHLS and the Provincial Health Authorities have been initiated. A memorandum of agreement with the GDoH, which is currently under consideration with the help of the Dean of the Faculty of Health Sciences, will allow meaningful collaboration and a realization of common end points. Two areas have been identified where data is already captured but is not stored or catalogued. The NHLS and all digital radiology systems generate data; however the analysis and utility of the data is limited as it is not stored or catalogued in a manner that would allow meaningful analysis. Appropriate IT input from academic staff already
within the university is an opportunity accessing massive data repositories. The system engineering to allow data comparison between systems is feasible.

Conclusion
A clinical database that serves the WITS Faculty of Health Sciences and the Johannesburg academic hospitals has multiple advantages:

1) It provides a platform for the Faculty’s clinical and other research drives. It will provide retrospective and prospective data for postgraduate students requiring information for research eg M.Med degrees and clinical Ph.Ds.

2) It will provide clinicians with real time patient information to practice expedient, high quality and safe health care;

3) It will allow Wits clinicians access to individual patient investigations as well as an overview of clinical practice which is presently lacking. The chasm between perception and accurate clinical research and analysis can only be bridged by robust data. Accurate clinical data enables hospital administrations to better quantify hospital needs and run efficient, cost effective organizations

4) It will assist us in enabling the GDoH (NDoH) to understand disease burden and health needs in specific areas and facilitate initiatives such as the NHI through provision of up-to-date and accurate data.

5) Additional research opportunities will include the development of informatics systems in improving in hospital patient safety (e.g. medicine administration systems, implementation of routine computer monitored check-lists, automated patient monitoring).

6) The development of Biomedical Informatics teaching modules both for individuals working in the fields of medicine and information technology.

7) Developing a base for extensive inter-faculty research, training and innovation.

Metadata
The role of healthcare informatics and its role in the bigger picture of biomedical informatics and ultimately metadata is an emerging strategy. The power and utility of correlation between large intercommunicating databases represents the next level in analysis and research.

<table>
<thead>
<tr>
<th>Strategic Priority</th>
<th>Visible Project Achievement/Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of pilot study (2011)</td>
<td>The lessons learnt from the pilot study were invaluable. Please see above under “Pilot Study with Wits Health Consortium”</td>
</tr>
<tr>
<td>Roll out of database to Departments</td>
<td>REDCAP was introduced and so far has been taken up by 27 users. A server and website with appropriate security, backup and support has been set up in collaboration with Wits Bioinformatics and CNS</td>
</tr>
<tr>
<td>Clinical IT education</td>
<td>Clinicians are deficient in IT training and knowledge. A cohort of senior clinicians are collaborating with colleagues in IT, engineering and computing to improve cross discipline data acquisition, storage and analysis. Clinical IT knowledge and training is largely absent from clinicians formal training. Early discussions are underway to formalise a basic clinical IT training course.</td>
</tr>
<tr>
<td>Consultation with academics</td>
<td>Consultations and advice were received from: Dr John Doulis, Dr David Haas, Dr Roy Zent and a delegation of interested clinicians and Healthcare Informatics specialists from Vanderbilt Medical School in July 2012. Internally there has been consultation with Professor Barry Dwolatzky, Director: Johannesburg Centre for Software Engineering at Wits University and Professor Scott Hazelhurst, Associate Professor and Head, Bioinformatics, Wits University. Consultation with clinicians and non-clinicians in the Faculty of Health Sciences and meetings of the database committee</td>
</tr>
</tbody>
</table>
Investigation of the availability of suitable software

The standards for healthcare data are well established in the fields of radiology (DICOM) and laboratory reports (Health Level 7, HL-7). Current IT solutions including available programs that link these to patient demographic data, pharmacy, billing and other points of patient capture are available but are complex and costly. Their value is however undoubtable in streamlining the logistics, financial control and prescriptions for patients. Moreover the increased data capture allows more powerful analysis.

### Budget Expenditure

<table>
<thead>
<tr>
<th>Item</th>
<th>Budget R360 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of project software (WHC)</td>
<td>R93 725.10</td>
</tr>
<tr>
<td>Transport and accommodation Dr John Doulis, Vanderbilt to visit and advise Wits</td>
<td>R22 772.90</td>
</tr>
<tr>
<td>Redcap : initial server charges</td>
<td>R 1 017.21</td>
</tr>
<tr>
<td>Servers for future housing of Redcap and development of system</td>
<td>R79 234.56</td>
</tr>
<tr>
<td>Contribution to software package on Winchart for capturing of anaesthetic data</td>
<td>R81 225.00</td>
</tr>
<tr>
<td>Cost of travel and accommodation for Dr Michael Klipin to undertake training at Vanderbilt Medical Facility</td>
<td>R50 000</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td><strong>R327 974.77</strong></td>
</tr>
</tbody>
</table>

It became evident early in 2012 that the WHC software was not going to work or achieve the complexity required in this project. Thus, the advice and contribution of Vanderbilt University has assisted us immeasurably. REDCAP, a user friendly open source clinical database template was initiated and rolled out to the Faculty. The project has received an enormous boost from the input of Vanderbilt and will continue to receive input and advice from this source. The on-site maintenance of REDCAP is managed by Professor Hazelhurst and Mrs I. Mare, a staff member in the Faculty of Health Sciences.

The present academic clinical teaching platform has very limited IT infrastructure within the public hospitals. The university has an opportunity to show leadership in this regard. There is broad support for IT development and data acquisition from all the Schools in the Faculty. Moreover, the Professor Dwolatsky ICT initiative supported by IBM and the Bioinformatics initiative with Professor Hazelhurst, coupled with our project, shows an emerging strategy at Wits to cooperate in the field of research in large databases. Senior members of the Faculties of Health Sciences and Engineering are involved in methods of harnessing the "Big Data" which modern healthcare systems generate. The capture, storage and analysis of data has implications for undergraduate and postgraduate training and research within each Faculty. The establishment of this sorely needed and long overdue resource in the Faculty of Health Sciences will enable multiple Departments and Schools to achieve the Wits objectives by increasing throughputs and outputs.

The epiphenomenon of cross disciplinary (clinicians, engineers, computer scientists) knowledge and experience is a powerful driver for understanding data within our University.

Professor Veller and Professor Kramer are pursuing funding for the further development and support of this system.
7.3.11. POSTGRADUATE HUBS

The Postgraduate Hub at the Medical School continues to be a place of huge activity. The total numbers of entries recorded for the Medical School Hub during **2012 is 23,140** (January - December 2012). This is slightly increased from 2011. Entries into the “new” PG Hub at CH Bragwanath Academic Hospital (officially opened January 2012) numbered **1,583**. The entries to both the Medical School Hub as well as the Hub at CH Baragwanath are controlled by an ICAM system, with 24 hours access to Postgraduate Students. Lunchtime seminars held monthly continue to be a source of interest (see below).

The HSRO wishes to thank Ms Nosipho Ludick at CH Baragwanath Learning Centre for assistance with matters relating to that Hub.

7.3.12. SEMINAR AT ONE – A SEMINAR SERIES FOR POSTGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES

Since 2010, a successful series of monthly lunchtime talks for postgraduate students have been held at the Postgraduate Hub at Medical School. These talks were initiated at Chris Hani Baragwanath Academic Hospital as well, in 2012. Access to leading researches from different fields was made available to students. The HSRO hopes that this has led to creating an enriching opportunities for dialogue and learning. These series were featured in The Star newspaper on two occasions, discussing the issues of "Hookah smoking" highlighted by Dr. Naidoo in one of the many fascinating lectures.

Seminars were presented by the following:

- **“Speedy MMed’s and PhD’s- a simpler way forward”** by Professor Savvas Andronikou - Department of Radiology.
- **“Applying for a grant: When is the right time to start writing a research proposal for funding”** by Professor Karen Sliwa - Director of the Hatter Institute for Cardiovascular Research in Africa, University of Cape Town.
- **“Research in a clinical environment”** by Dr. Matshediso Mothopi - Department of Prosthodontics, School of Oral Health Sciences
- **“Make your social networking work for you”** by Paula Barnard Ashton - School of Therapeutic Sciences.
- **“Alternative ways to secure your data: Public resources for private data”** by Dr. Mark Allen - Faculty IT Manager - Centre for Health Science Education
- **“Dead tired of your MMed or Master? – Publish or Perish, the inside story”** by Dr Glenda Myers - Health Sciences Library
- **“Hookah Smoking”** by Dr. Kuban Naidoo - Department of Paediatrics.
- **“Pro’s and con’s of careers in basic and translational life science research”** by Dr. Alexio Capovilla - Department of Molecular Medicine & Haematology and HIV Pathogenesis Research Laboratory.
- **“The Scope and relevance of research in the current economic and political Climate in Gauteng”** by Dr. Anna Sparaco - Department of Surgery, D G Medical Centre and CMJ Academic Hospital.
- **“Strategies for a successful outcome in undertaking clinical research for MMED’s”** by Dr Sanjay Lala - Department of Paediatrics.
7.3.13. PARTICIPATION IN THE PFIZER- KWAZULU NATAL YOUNG HEALTH SCIENTISTS SYMPOSIUM

Undergraduate students from across the Faculty were selected to attend the Pfizer-UKZN Young Health Scientist Symposium in KwaZulu-Natal in September. Our students participated in three categories as outlined below:

- Ms Alessandra Prioreschi- Laboratory Based Research: Whole body vibration increases hip bone mineral density in road cyclists.
- Mr Bojan Korda- Community Based Research: Nurses’ perceptions of communication with doctors at Charlotte Maxeke Johannesburg Academic Hospital.
- Ms Robyn Vrettas- Community Based Research: Time use and boredom in mental health care users with co-morbid substance abuse in acute and chronic settings.

Ms Alessandra Prioreschi (middle in the photo below) returned home with the first prize for the best presentation in the Clinical Based Research category.

![Photo of students](image)

7.3.14. RESEARCH VISITORS TO THE FACULTY

Professor Peter Agre, Nobel Laureate in Chemistry 2003 for the discovery of water channels and Director of the Johns Hopkins Malaria Research Institute, visited the University of the Witwatersrand in October 2012. During his visit he discussed collaboration with the Malaria Entomology Research Unit at Wits on a project funded by the US National Institutes of Health, to establish an International Centre of Excellence in Malaria Research (ICEMR). The meeting was attended by Professors Ahmed Wadee, Beverley Kramer, Maureen Coetzee, Theresa Coetzer, Robyn van Zyl and Mahomed Moolla.
Professor Agre gave a lecture in the Faculty entitled ‘Aquaporin Water Channels – from Atomic Structure to Malaria’. During his visit Professor Agre also visited the malaria research laboratories headed by Professors Theresa Coetzer (Haematology & Molecular Medicine) and Robyn van Zyl (Pharmacology). It was a great honour to host such a high calibre visitor at our campus.

From left: Professors Maureen Coetzee, Peter Agre, Helen Laburn and Beverley Kramer.

7.4. HSRO ONGOING COMMUNICATION WITH FACULTY

7.4.1. FACULTY RESEARCH NEWSLETTER

The Faculty Newsletter, initiated in 2009, has expanded and updated to profile researchers, explore research being undertaken in the Faculty, and report on research highlights and prestigious awards.

Philippa McKechnie was responsible for the design and layout of the Newsletter, as well as gathering and collating of information. Nomfundo Sibiya assisted with this task when Wits bid farewell to Philippa in July 2012. Professor Beverley Kramer and Associate Professor Andrea Fuller continued to serve as senior editors. The Newsletter is emailed to members of the Faculty, members of the wider University community (including SET), Health Sciences alumni, and other interested external parties (including potential donors). Efforts to increase the distribution list are ongoing.

7.4.2. HEALTH SCIENCES RESEARCH OFFICE BULLETIN

The Research Bulletin continued to assist emphasize notices regarding important events and applications. The Bulletin (see example attached, Appendix 2) includes brief notices of upcoming research courses/workshops and events hosted by the FRO as well as funding opportunities (both internal and external). It is generally sent between 30th- 01st of each month, and lists all notices relevant to the month ahead. Links to webpages with further information or documents are included when necessary.

Ms Nomfundo Sibiya is responsible for collating and editing the content of the Bulletin, with Mrs Philippa McKechnie and Professor Beverley Kramer acting as supervising editors.

7.4.3. POSTGRADUATE BROCHURE

The Office of the Assistant Dean: Research and Postgraduate Support continues to provide an updated brochure for postgraduate students each year. The purpose of the brochure is to introduce postgraduate
students to the Faculty and to assist both local and international students to settle into their work, study and social environments. In 2012, the brochure was updated and redesigned, with assistance from Wits Marketing (Ferna Clarkson and Muziwandile Makhanya). The brochure was ready in the second week of December 2012 and was handed out to all postgraduate students at registration in January 2013. A new brochure containing information on admission requirements, registration, protocol development, examination and graduation is due for completion in the latter part of 2013.

7.4. POSTGRADUATE HERALD (NEWSLETTER)

The Faculty of Health Sciences Postgraduate Herald continued to serve the Postgraduate Student Community. Each issue consists of helpful hints and tips on various topics written by three FRO staff members (Faculty Research Coordinator, Research Methodology Coordinator and the Faculty Biostatistician). Selected (and edited) submissions by Postgraduate students are also included.

Ms Nomfundo Sibiya is responsible for the quarterly publication, as well as its distribution to Postgraduate students.

7.4.5. RESEARCH AND POSTGRADUATE OFFICE WEBPAGE

In 2012, the development of the HSRO webpages continued. The research courses and workshops page was separated and a new page (1H5W series page) was introduced. The Research Entities pages were updated and a general brief on each research entity for entities which did not have websites, was created.

Simone Shall and Jonathan Taylor at Wits Marketing continued to be a source of invaluable assistance.

7.5. HSRO INITIATIVES IN 2012

7.5.1. Faculty of Health Sciences Research Office Postgraduate Facebook Page

The HSRO Postgraduate Facebook page was created in November 2012, after having several meetings with individuals such as Paula Ashton-Barnard and Kim Botha who advised on the basic principles of having a successful and informative page for Postgraduate students. The aim of Facebook page is to provide postgraduate students with updates on information such as workshops and courses, funding and other important dates or news. The page is receiving growing attention from students.

7.5.2. Diamonds and Pearls: Insights into the management of Cardiovascular Disease in Women

The Faculty Research Office hosted the symposium: ‘Diamonds and Pearls: insights into the management of Cardiovascular Disease in Women’. The event was organized by Professor Elena Libhaber and Dr Naomi Rapeport and took place on the 20th November in the Marie Curie Lecture Theatre at Wits Medical School. The symposium included highlights of the main cardiovascular topics, such as: Guidelines for the Prevention of Cardiovascular disease in Women, Hypertension in pregnancy, Valvular Heart disease in pregnancy, Peripartum Cardiomyopathy, The control of hyperlipidaemia in South African women, Coronary Heart disease in women, and Depression in women with Cardiovascular disease. The speakers were distinguished Wits Faculty and alumni: Drs N Rapeport, C Shamroth Professors E Buchmann, M.R Essop, K Sliwa, P Manga and M Vorster. The Dean of the Faculty of Health Sciences Professor Ahmed Wadee opened the symposium and Professor Yosuf Veriava provided the closing remarks. The symposium was recorded on video for educational
purposes and will be placed on both the Wits and UCT Health Sciences Web pages. Many participants expressed their wish that the meeting should be repeated in 2013!

8. NOTABLE RESEARCH ACHIEVEMENTS AND ACTIVITIES

The Faculty is extremely proud of the many awards and honours bestowed on its staff, particularly in the field of research. Listed below are some of the many distinguished awards/events of 2012. Many others follow under the listing of Schools and Units.

Congratulations are extended to:

**Associate Professor Yahya Choonara**, for receiving the **TW Kambule Award** for an Emerging Researcher who has made an outstanding contribution to SETI through research and its outputs. **Professor Choonara** was also appointed a TWAS Young Affiliate.

**Professor Emeritus Duncan Mitchell**, for being a finalist in the “Contributions made by an Individual over a Lifetime” category.

**Professor Maureen Coetzee** for being elected to Fellowship of the Royal Society of South Africa. Further to this, the American Mosquito Control Association (AMCA) has chosen **Professor Coetzee** as the recipient of the AMCA John N. Belkin Memorial Award, in recognition of her “exceptional contributions to the taxonomy, systematics and biology of African mosquitoes”.

**Professor Hoosen Coovadia** for being elected to Fellowship of the Royal Society of South Africa. **Professor Coovadia** is Director of MatCH (Maternal Adolescent and Child Health), at WITS.

**Professor Barry Schoub** (School of Pathology) for receiving the prestigious **Order of Mapungubwe: Silver**, from President Jacob Zuma, at a ceremony which took place at the Presidential Guest House on 27 April 2012. **Professor Schoub** is being awarded the honour for his “excellent achievements in Medical Science and contribution to the field of virology”. This Order is awarded to South African citizens for excellence and exceptional achievement.

**Professor Emeritus Phillip Vallentine Tobias** for being conferred with the degree of **Doctor Scientiae, honoris causa**, by the **Nelson Mandela Metropolitan University** in recognition of “his work in establishing South Africa as the ‘Cradle of Humankind’, his devotion to humanity and for raising the profile of Southern Africa and its people in Science and Society”.

**Professor Glenda Gray** for being honoured with an honorary degree of Doctor of Science by the Simon Fraser University.

**Professor Emeritus Duncan Mitchell** for being conferred with the degree of Doctor of Science, **honoris causa**, by the University of the Witwatersrand.

**Professor Helen Rees** for being awarded the Vice-Chancellor’s Research Award and the **SAMA Lifetime Achievement Award**.

**Professors Helen Laburn, Professor Shabir Madhi and Viness Pillay** for being inaugurated as members of the Academy of Science of South Africa (ASSAf) in 2012.

**Dr Lois Harden (Brain Function Research Group)** for being one of the recipients of a Friedel Sellschop Award.
Dr Bavesh Kana for being appointed as an International Early Career Scientist at the Howard Hughes Medical Institute, USA. Dr Kana was one of 28 scientists selected (out of over 750) following a highly competitive review process. The appointment includes a substantial five-year research grant.

Professors Joe Veriava and John Milne for being presented with Lifetime Achievement Awards at the 17th biennial congress of the Southern African Hypertension Society held on the 3rd - 5th March 2012.

Professor John Pettifor for receiving a Career Award from the XVth Vitamin D Workshop held in Houston, USA in recognition of his contribution to vitamin D research over the years.

Perinatal HIV Research Unit – PHRU (Director: Professor Glenda Gray) for being the first site in South Africa to host a paediatric tuberculosis vaccine study.

Professor Viness Pillay, Professor Maureen Coetzee and Professor Shabir Madhi for the successful reviews of their DST/NRF Research Chairs.

Ms Erin Hutchinson (School of Anatomical Sciences), an emergent researcher, for receiving a grant to host a series of specialist workshops under the 2012/13 German-South African Year of Science Programme, funded by the Department of Science and Technology/National Research Foundation and the BMBF (Federal Ministry of Education and Research of Germany). The workshops covered a variety of 3D visualization techniques relevant to the fields of dental and craniofacial biology, forensic and physical anthropology, and archaeology.

Professor Steve Tollman for being appointed Chair of the Wellcome Trust ‘Public Health and Tropical Medicine Interview Committee’ and will also be taking on the role of Principal Scientist for the INDEPTH Network (www.indepth-network.org).

Further to this, Professor Tollman (scientific PI) and Professor Sharon Fonn, together with Professor Kathy Kahn, were applicants on a Wellcome Trust Strategic Award recently awarded to the INDEPTH Network. The grant is substantial – GBP 2 million; the project it will fund is focused on enhancing the compatibility of data in multi-site research and ensuring effective public access. Following this award, INDEPTH/Wits School of Public Health were awarded 5M kronor by Sida (Sweden), part of which is to Wits to establish an MSc track in research-oriented data management. Osman Sankoh, INDEPTH Executive Director and an Honorary Associate Professor in the School, is lead co-PI on these awards.

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

Dr Mignon du Plessis (Respiratory & Meningeal Pathogens Research Unit – RMPRU) for receiving the 2012 Robert Austrian Research Award in Vaccinology (Africa) at the 8th International Symposium on Pneumococci and Pneumococcal Diseases (ISPPD-8) held in Iguaçu Falls, Brazil from 11-15 March 2012.

Dr Patrick Dessein (Cardiovascular Pathophysiology Genomics Research Unit) for being the only invited South African member of the International Scientific Committee of Excellence in Rheumatology (EiR) in February 2012. The number of delegates is currently capped at 900, hailing from 60 countries worldwide.

Dr N Maharaj (a Carnegie PhD fellow) and Dr Haroon Abbasi (a PhD student in the Division of Cardiology at Chris Hani Baragwanath Academic Hospital) for receiving awards for best oral and poster presentation respectively, at the South African Heart Association Congress held at Sun City (July 2012).
Professor Himla Soodyall (Director: Human Genomic Diversity and Disease Research Unit) and her team for a paper published recently by Carina Schlebusch (a Wits PhD graduate). The paper was published in the prestigious journal, *Science*, in September 2012.

Dr Penny Moore, Professor Lynn Morris and colleagues for a study published in Nature Medicine on 21 October.

The group members of the Wits Advanced Drug Delivery Platform (WADDP) – (Professor Yahya Choonara, Professor Vinness Pillay, Dr Valence Ndesendo, Ms Lisa du Toit, Mr Pradeep Kumar, Dr Riaz Khan, Dr Caragh Murphy and Dr Debbie-Leigh Jarvis) for being awarded a prize for the “best publication in Pharmaceuticals” at the Academy of Pharmaceutical Sciences Conference held in Grahamstown.

Dr Karlyn Frank (Department of Obstetrics and Gynaecology, School of Clinical Medicine) for being awarded a prize for service excellence in teaching and supervision by the South African Medical Association (SAMA). The award was made by SARA (SA Registrars Association) in recognition of Dr Frank’s unique approach and success in motivating and training registrars in research.

Mr Schalk van der Linde (a final year Bachelor of Dental Science student) for winning a SADA/Dentsply Student Clinician Programme award in a competition held at the IADR Congress in August in Johannesburg. Ms Alessandra Prioreschi for being a prize winner at the Pfizer-University of KwaZulu-Natal Young Health Scientists Research Symposium held at the University of KwaZulu-Natal on the 23rd October 2012. Ms Prioreschi won the prize under the category Clinical Research.
8.1. Notable Research Activities and Achievements by School

As many of our Research Entities and Departments have noteworthy activities during the year, this section is included as highlights.

SCHOOL OF ANATOMICAL SCIENCES

Awards and recognition

- **Professor Amadi Ihunwo** was inducted as a Fellow of the Anatomical Society of Nigeria (FASN) in November, 2012.
- **Professor Lynne A. Schepartz** received an NRF rating, awarded B3.
- **Ms Desire Brits** was elected as council member of the Anatomical Society of Southern Africa (ASSA).

Substantial research grants

- Desire Brits received NRF Thuthuka PhD track grant (R117 000 + R117 000 matched by URC = R234 000).
- Desire Brits also received Carnegie Corporation Transformation Programme at Wits large grant (R126 000).

Significant international research collaborations

- **Professor Amadi Ihunwo** collaborated with the University of Ilorin, Federal University of Agriculture, Abeokuta, University of Ibadan and the University of Port Harcourt, all in Nigeria. These collaborations are designed for research visits and training in immunohistochemical and electron microscopy techniques.
- **Miss Erin Hutchinson** recently hosted Professor Ralf Radlanski and his research team (Dr. Herbert Renz, Dr. Camilla Zimmermann, Dr. Alexander Voigt, Mrs. Irene Schwarz & Mrs. Barbara Danielowski) from the University of Berlin under the 2012/13 German-South African Year of Science Programme, funded by the Department of Science and Technology/National Research Foundation and the BMBF (Federal Ministry of Education and Research of Germany). A collaboration has been established with Professor Radlanski to further develop imaging techniques between the Charité - Universitätsmedizin Berlin and the School of Anatomical Sciences. It is also envisaged that the collaboration will foster further research in the oral biology fields of research.
- **Professor Lynne A. Schepartz** was a Senior Visiting International Fellowship at the Institute of Vertebrate Paleontology & Paleoanthropology, Chinese Academy of Sciences, Beijing from 2011-2012 and also a Visiting Research Scholar at the Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences, Beijing from 2009-2013.

Staff and student participation in congresses

- **Desire Brits** was a keynote speaker 2nd Annual Forensic Biology Symposium, University of Otago, New Zealand.

• Candice Small, a Masters Student, won the Bob Symington Award for the best Young Oral Presenter at the Anatomical Society of Southern Africa annual meeting 2012.

• Mr Deran Reddy was awarded a Student Prize 2012 at the Microscopy Society of Southern Africa Congress.

• Ms Erin Hutchinson gave an oral presentation at European Academy of Forensic Sciences Conference, The Hague, Netherlands on the 19th to 24th August 2012. Ms Hutchinson also attended the following scientific meetings:
  - Cranial and Postcranial Juvenile Osteology for Medical, Forensic and Archaeological Practitioners (30th July - 10 August 2012), University of Dundee, Scotland.
  - International Association of Dental Research, South African Chapter meeting, Johannesburg (30th - 31st August 2012).
  - 3D visualization techniques for Forensic Scientists, Craniofacial Biologists and Health Care Professionals workshop (15th - 19th October): both hosted and presented lectures

• Professor Lynne A. Schepartz presented papers at the following platforms:
  - Society for American Archaeology meeting in Memphis, TN: The contribution of bioarchaeological analyses to current developments in Albanian archaeology. BK McIlvaine and LA Schepartz.
  - The American Association of Physical Anthropologists meeting in Portland, OR: Evidence for long-term gene flow on the Balkan Peninsula using dental nonmetric data: Identity at the Greek colony of Apollonia, Albania. BK McIlvaine, LA Schepartz and CS Larsen.
  - The American Association of Physical Anthropologists meeting in Portland, OR: Brain morphology of Zhoukoudian H. erectus. X.Wu and LA Schepartz.
  - Paleoneurology Workshop at CENIAH in Burgos, Spain October 2012.

Posters presentations

• Nina Patzke, Amadi O. Ihunwo, Paul R. Manger. Comparative analysis of environmental complexity on adult hippocampal neurogenesis in wild living animals. JB Johnston Club for Evolutionary Neuroscience meeting, New Orleans, USA, October, 2012


• Miss Erin Hutchinson was awarded the best poster presentation in the Molecular and Comparative Biosciences theme at the Faculty of Health Sciences Biennial Research Day and Postgraduate Expo 2012.

Hosting of a Congress/Research Day/Research Workshop
• The International Brain Research Organization (IBRO)/International Society for Neurochemistry (ISN) Advanced Neuroscience School at the Wits Rural Facility in March, 2012 with participants from eight African countries and facilitators from six countries. See group photo.
Photograph of the Participants and Instructors at the IBRO/ISN Advanced Neuroscience School on the theme, “Evolution of the Visual System” held at the University of the Witwatersrand Rural Facility, Bushbuckridge, Limpopo, South Africa from 11-21 March 2012.

• Miss Hutchinson in collaboration with the Health Sciences Research Office co-hosted: 3D visualization techniques for Forensic Scientists, Craniofacial Biologists and Health Care Professionals workshop on the 15th to 19th October 2012.

Significant Publications:


SCHOOL OF CLINICAL MEDICINE

CARBOHYDRATE AND LIPID METABOLISM RESEARCH UNIT – DEPARTMENT OF INTERNAL MEDICINE

Director: Professor Frederick Raal

Awards/Recognition

• Dr Daksha Jivan was awarded the Solly Lopis prize for the best MMed for 2012.

• Mr Andrew Immelman was awarded the best poster prize at the 2012 Faculty of Health Sciences Research Day. His poster was entitled “Familial hypercholesterolaemia is not an insulin resistant state”.

• Professor FJ Raal is an ongoing active member of the Endocrine Society in recognition of achievements in clinical practice, research and education in the field of Endocrinology.
Significant Publications:

- Raal FJ. The cardiovascular health of the nation – should we be advocating a low-carbohydrate high-fat diet? *SAMJ* 2012;102:740.

Participation in Congresses

- Professor FJ Raal was an invited speaker at the XVI International Symposium on Atherosclerosis held in Sydney, Australia in March 2012.
- The Unit presented two posters at the SEMDSA Congress held in Cape Town from 19-22 April 2012.
- Professor Raal was an invited speaker at the SA Heart meeting held at Sun City 19-22 July 2012 and also at the 15th Congress of the Lebanese Society of Endocrinology, Diabetes & Lipids held in Lebanon 1-3 June 2012.
- Professor Raal gave an oral presentation as a LATE BREAKING session at the AMERICAN HEART ASSOCIATION SCIENTIFIC SESSION held in Los Angeles, California from 3-7 November 2012. His presentation of the Rutherford Study was published simultaneously in *Circulation*, the leading cardiovascular journal (impact factor 14,739) and was also quoted in the *New York Times*.

CLINICAL HIV RESEARCH UNIT – DEPARTMENT OF INTERNAL MEDICINE

Director: Professor Iann Sanne

Awards/Recognition

- Professor Ian Sanne – CHRU Director, Serves as NIH ACTG Network Vice-Chair, responsible for the role of the International Scientific Officer
- Professor Cindy Firnhaber received an NRF rating – C2 and Wolfsy Award
- Dr Francesca Conradie was appointed as President of the SA HIV Clinicians Society
- Dr Denise Evans was awarded a Claude Leon Foundation Fellowship

Substantial Research Grants/ Funding

- Clinical HIV Research Unit received a Total Funding of R 43,785,489.44 in 2012.
Significant Local Collaborations
Collaboration with the following local institutions is underway:

- WRHI – NIH - Microbide Trial Network
- Shandukani Research Centre – IMPAACT
- ESRU – PROMISE

Significant International Collaborations
Collaboration with the following Institutions is underway:

- Boston University – Epidemiology Research Projects
- University of North Carolina – TB Research
- Duke University – Epidemiology Research Projects
- TB ALLIANCE – TB Research
- University of Munich – TB Research (MAMS Study)
- University of London – TB Research (Remox)

Participation in Congresses/ Workshops

- Professors Ian Sanne, Cindy Firnhaber and Dr Pru Ive attended Conference of Retrovirus & Opportunistic Infections 2012 - US
- Professors Ian Sanne, Cindy Firnhaber, Dr Pru Ive, Vuyokazi Jezile, Marlene Knight, Mohammed Rassool, Melissa Hero attended International AIDS Conference – US
- CHRU – ACTG International Scientific Officer – Member of Operations Team, Staff member Ms Aseza Nqeketo was selected for 6 weeks training at the ACTG Network’s Operational Office i.e. SSS in Maryland, US.

Postdoctoral Fellows

- Dr Denise Evans - postdoctoral fellow at WITS University funded by the Claude Leon Foundation – Fellowship runs from 2011 – April 2013

Significant Publications

Gruttola Vand Hakim JG for the PEARLS study team of the ACTG. Efficacy and Safety of Three Antiretroviral regimens for Initial Treatment of HIV-1: a Randomized Clinical Trial in Diverse Multinational Settings. PLOS Med. 2012 9(8):e1001290. Impact Factor: 13.05


New Research Initiatives (selected)
- Gene- Xpert –purchasing of technology to ensure faster and efficient testing in the TB Focal
- CHRU was appointed as an AMC site this year (AIDS MALIGNANCY CONSORTIUM – NIH).
- CHRU has been selected one of the new MDR TB Drug-development sites by Tibotec Pharmaceutical, to be done at Sizwe (pending CEO from Sizwe’s approval).

Visitors
- Dr Tony Fauci Anthony S. Fauci, NIAID Director – October 2012
- Hugh Auchincloss, M.D., serves as NIAID Principal Deputy Director – October 2012
- MAMS Visit (German Delegation including Michael Moelscher and company) – February 2012
- Daniel Westrich – Duke University CAB delegation from NIH /ACTG Dr Akbar Shahkolahi and Ms Allegra Gormak – November 2012
- Dr Richard Haffner – NIH DAIDS – TB – November 2012

DEVELOPMENTAL PATHWAYS FOR HEALTH RESEARCH UNIT – DEPARTMENT OF PAEDIATRICS
Director – Professor Shane Norris

Awards/Recognition
- The Faculty Research Prize, which is the most prestigious prize offered by the Faculty of Health Sciences and is awarded in recognition of excellence in research, was awarded to Dr Kebashni Thandrayen (PhD student) for her publication: ‘Heterogeneity of fracture pathogenesis in urban South African children: The Birth to Twenty Cohort’, published in the Journal of Bone and Mineral Research (Vol. 26 No.12, pp. 2834–2842, December, 2011).

Participation in Congresses/ Workshops
- Postdoctoral Fellow Dr Celia Hsiao received recognition from the Early Career Scholar Grant Committee and was selected for a travel grant to attend the International Society for the Study of Behavioural Development at Edmonton, Canada (uly 8-12, 2012).
- Honorary Clinical Researcher Dr Matthew Hamil was awarded a premier poster prize for his poster at the National Osteoporosis Society conference in Manchester (1-4July 2012).

Postdoctoral Fellows
- Dr Celia Hsiao
- Dr Carren Ginsburg
- Dr Julia de Kadt
- Dr Emily Mendenhall
- Dr Rihlat Said Mohamed

Significant Publications
- Norris SA, Osmond C, Gigante D, Kuzawa CW, Ramakrishnan L, Lee NR, Ramirez-Zea M, Richter LM,


New research initiatives

- Honorary Professor Linda Richter to lead a policy initiative with the President’s Office of South African around the importance of Early Child Development which resulted in a report.

- Honorary Professor Linda Richter and Dr Julia De Kadt (Postdoctoral Fellow) chaired a stakeholder engagement workshop with the Department of Basic Education, Human Sciences Research Council, University of Stellenbosch and Northumbria University around education research findings (school choice) and early child development from the Birth to Twenty cohort as part of a ESRC grant.

EFFECTIVE CARE RESEARCH UNIT (ECRU) – DEPARTMENT OF OBSTERICS AND GYNAECOLOGY

Director: Professor Justus Hofmeyr

Awards/Recognition

- During 2012 ECRU was re-accredited as a WHO Collaborating Centre in Reproductive Health research synthesis.

- Professor Justus Hofmeyr participated in WHO guideline development panels on management of pre-eclampsia and management of 3rd stage of labour

- Director - Professor Justus Hofmeyr was awarded SAMA ‘Spirit of Medicine’ award for 2012

Funding

- Awarded supplementary funding for the sub-grant of the pre-empt research project to conduct a randomized trial of calcium supplementation before and during pregnancy, from University of British Columbia, a grantee of the Bill & Melinda Gates foundation. Total value of Sub-grant: USD 1,300,000.
Significant Local and International Collaborations

- Collaborated with CH Baragwanath/Wits, UCT, University of Stellenbosch on the Calcium and Pre-eclampsia Trial.
- Collaborated with University of the Western Cape in the Promise PEP trial.
- Collaborated with World Health Organisation and researchers in Zimbabwe and Argentina on the Calcium and Pre-eclampsia Trial.
- Collaborated with University of Montpellier in the Promise PEP trial.
- Collaborated with World Health Organization on the ECHO project.

Participation in Congresses/Workshops

- Hofmeyr GJ, for the Calcium and Pre-eclampsia (CAP) Study Group. Use of calcium and vitamin D for prevention of pre-eclampsia/eclampsia. USAID MCHIP Asia Regional Meeting on Interventions for Impact in Essential Obstetric and Newborn Care, Dhaka, Bangladesh May 3-6, 2012
Hosting of a Congress/Research Day/Research Workshop

The photo below shows ECRU members at Annual Research Methods Course in East London on the 22nd – 24th Nov 2012

ECRU members at Annual Research Methods Course in East London on the 22nd – 24th Nov 2012

Significant Publications


New Research Initiatives

- Finalised protocol for the ECHO 2 project, in collaboration with University of Cape Town: A randomized trial of IUD vs Depot progestogen to determine the effect of depot progestogen on HIV transmission and progression. Protocol approved by WHO RP2 and ERC (Ethics) committees. WHO seeking funding for the trial.
- Initiated recruitment for a randomized trial of IUD versus DMPA to assess effects on depression and sexual function (Mandisa Singata, PhD thesis, UCT).
- Commenced work on new Cochrane systematic reviews: Postpartum misoprostol for reducing maternal mortality Calcium supplementation commencing before pregnancy for preventing pre-eclampsia.

Visitors

- Hosted leading researchers in the field of pre-eclampsia from Canada, Argentina and USA.

PERINATAL HIV RESEARCH UNIT (PHRU)

Director: Professor Glenda Gray

Appointments

Professor Glenda Gray
- Canadian HIV/AIDS Vaccine Research

Awards and recognition

Prof. Glenda Gray
- Inducted into institute of Medicine of the National Academies of Science in the USA Board of Global Health of IOM
- Committee on evaluating vaccines in IOM
- Chair of the standing of committee of Health, ASSAF SAC of IAVI
- Member of the Vaccine Advisory Committee of WHO/UNAIDS DSC (honorary) Simon Fraser University Canada
- Elected to American Academy of Microbiology
- Made a full member (full professor) of the vaccines and infectious Diseases, Fred Hutchinson Cancer Research Centre

Dr. Fatima Laher

- Young Physician Leader award from the Inter Academy Panel
- Selected as Protocol Co-chair for HVTN 100
- Selected as faculty member for the OCTAVE manuscript writing workshop
## Substantial research grants

<table>
<thead>
<tr>
<th>Sign Date</th>
<th>Description</th>
<th>Sponsor</th>
<th>Value (ZAR)</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>06-Jan-12</td>
<td>SAAVI now Wishes to Provide the Institution with Further Funding for ongoing and further research in accordance with Extension of Research Proposal annexed hereto as Annexure A, and on which such Funding is based</td>
<td>MRC - Medical Research Council - SA</td>
<td>1 835 938.00</td>
<td>Prof Glenda Elisabeth Gray</td>
</tr>
<tr>
<td>26-Jan-12</td>
<td>The aim of this Agreement is to Support the Enhanced and Coordinated Implementation of Medical Male Circumcision Services as a Component in Managing the HIV/AIDS/TB Diseases in the Free State Province</td>
<td>FSDoH - Department of Health, Free State</td>
<td>2 324 225.00</td>
<td>Dr Neil Martinson</td>
</tr>
<tr>
<td>22-Mar-12</td>
<td>Provision of Medical male Circumcision (MMC) for HIV Prevention Program</td>
<td>Society for Family Health, The</td>
<td>11 293 422.00</td>
<td>Dr Neil Martinson</td>
</tr>
<tr>
<td>10-Apr-12</td>
<td>Antiretroviral Refusal Among Newly Diagnosed HIV-Infected Adults in South Africa</td>
<td>NIH - National Institute of Health</td>
<td>151 200.00</td>
<td>Prof Glenda Elisabeth Gray</td>
</tr>
<tr>
<td>08-May-12</td>
<td>CHVI Large Team: Barriers to engaging young people in HIV vaccine trials in a priority setting</td>
<td>CIHR - Canadian Institutes of Health Research</td>
<td>132 307.50</td>
<td>Prof Glenda Elisabeth Gray</td>
</tr>
<tr>
<td>10-May-12</td>
<td>Protocol C: A Prospective, Observational, Multi-Center Study to Evaluate laboratory, Clinical, Immunologic and Viral Markers of Disease Progression in Recently HIV-infected Volunteers</td>
<td>USAID - United States Agency International Development</td>
<td>248 711.10</td>
<td>Mr Nick Moodley</td>
</tr>
<tr>
<td>30-May-12</td>
<td>Limited Funding Agreement between PHRU and Global Alliance for TB</td>
<td>Global Alliance for TB Drug Development, The</td>
<td>21 000.00</td>
<td>Prof Glenda Elisabeth Gray</td>
</tr>
<tr>
<td>14-Jun-12</td>
<td>Exploring Integrated HIV Prevention</td>
<td>NIH - National Institute of</td>
<td>100 162.30</td>
<td>Dr Fatima Laher</td>
</tr>
</tbody>
</table>
Significant Local Research Collaborations

- Linda Gail Bekker, HIV Vaccines Trials Network, Desmond Tutu HIV Centre
- Helen Rees – Wits Reproductive Health and HIV Institute
- Carolyn Williamson – Research Fellow, University of Cape Town
- Caroline Tiemessen – National Institute of Communicable Diseases
- Lynn Morris – National Institute of Communicable Diseases
- Prof Mark Cotton - University of Stellenbosch
- Prof Shabir Madhi – Respiratory and Meningeal Pathogens Research Unit
- Dr Barbara Laughton- University of Stellenbosch
- Dr Marvin Hsiao- University of Cape Town
- Dr Helena Rabie, University of Stellenbosch
- Prof Anneke Hesseling, University of Stellenbosch
- Department of Paediatrics – University of Witwatersrand
- Desmond Tutu TB Centre, Stellenbosch University
- Klerksdorp Tshepong Hospital Complex
- Department of Health Free State
- South African National Department of Health
- Collaboration with SAAVI on two trials

Significant International Collaborations

- Larry Corey: FHRC
- Angela Kaida, Mark Brockman, Cari Miller, Robert Hogg: Simon Fraser University
- Collaboration with IAVI on one trial collaboration with the HVTN on multiple clinical trials. Collaboration with Canadian HIV Vaccine Initiative on multiple research studies
- ACTG (Adults Clinical Trials Group network) funded by the NIH
- HPTN (HIV Prevention Trials network) funded by NIH
- HVTN (HIV Vaccines Trials network) funded by NIH
- IMPAACT (Infant, Maternal, Paediatric, Adolescent Clinical Trials network) funded by the NIH
- MTN (Microbicides Trials network) funded by NIH
- Prof Michael Boivin - Michigan University


- Prof Louise Kuhn - Columbia University
- Professor Louis Montaner, Dr Livio Azzoni and Dr Papasavvas - Wistar Institute, Philadelphia
- Professor Nigel Klein and Dr Helen Payne - University College London and Oxford University
- Professor Deenan Pillay-University College London
- Prof Abdel Babiker, Clinical Trials Unit MRC, London, UK
- Prof Diana Gibb, Clinical Trials Unit MRC, London, UK
- Professor Charles Mitchell, University of Miami, Florida
- Professor Paul Palumbo, Dartmouth, USA
- Johns Hopkins University (Multiple), Baltimore, USA
- Van der Bijlt University, London College, London
- Kirby Institute, University of New South Wales, Australia

Staff and Student participation in Congress

Dr. Fatima Laher
- The Global President of Merck Sharpe & Dohme

Margaret McGlynn
- Speaker at AIDS Vaccine Advocacy Coalition (AVAC) regional meeting to promote vaccine research to civil society Initiated TB vaccine research in infants.

Hosting of a Congress/Research Day/Research Workshop

Professor Glenda Gray
- Octave Workshop on statistics
- Octave Workshop on manuscript writing
- PHRU workshop on manuscript writing
- PHRU Research Day, February 2012

Significant Publications


Visitors
- Tony Fauci – Director of National Institute of Allergy and Infectious Diseases
- Alan Bernstein – President of Canadian Institute for Advanced Research

PULMONARY INFECTION RESEARCH UNIT – DEPARTMENT INTERNAL MEDICINE

Director: Professor Charles Feldman

Appointments
- Appointed as a Member of the Nominating Committee for the Mycobacterium Tuberculosis and Pulmonary Infection (MTPI) Assembly of the American Thoracic Society, May 2012. This is considered a leadership position within that society.

Significant Local collaborations
- Professor Ronald Anderson, PhD – Professor of Immunology, Medical Research Council Unit for Inflammation and Immunity, Faculty of Health Sciences, and Tshwane Academic Division of the National Health Laboratory Services, University of Pretoria.
- Professor Annette Theron, PhD - Associate Professor in Professor Anderson’s Unit.
- Professor Riana Cockeran, PhD – Associate Professor and Research Scientist in Professor Anderson’s Unit.
- Dr Helen Steel, PhD – Research Scientist in Professor Anderson’s Unit.
- Professor Keith Klugman, Dr Anne von Gottberg, Mrs Linda de Gouveia, and Dr Olga Perovic from the National Health Laboratory Services, and School of Pathology, University of the Witwatersrand.
- Professor Francois Venter – Johannesburg, South Africa.
Significant International collaborations

- Professor Tim Mitchell PhD – Division of Infection and Immunity, Institute of Biological and Life Sciences, University of Glasgow, Scotland. This collaboration is related to the work on the pneumococcus, with particular relevance to the studies on pneumolysin and macrolides.
- Dr Victor Yu – University of Pittsburgh, Pittsburgh, USA. This is a multicentre international collaboration with investigators across the world investigating various aspects of pneumococcal bacteraemia, pneumococcal meningitis and cryptococcal infection. The former project is completed and the latter two still have to be completed.
- Dr Julio Ramirez – Louisville, Kentucky, USA. This is an ongoing multicentre international collaboration with investigators across the world. It has a web (internet)-based case report form and aims at recruiting and investigating various aspects of the management of patients with community-acquired pneumonia across the world.
- Professor Grant Waterer – Perth, Australia, and Dr Richard Wunderink, USA. This is a multicentre international collaboration including Australia, South Africa, Argentine and Spain and is investigating genetic factors predisposing to community-acquired pneumonia.

Participation in Congresses/workshops

- ID Week (Combined Congress including the Infectious Diseases Society of America), 17-21 October, 2012, USA — “Big Beasts of ID - Pneumonia”.

Significant Publications


SOWETO CARDIOVASCULAR RESEARCH UNIT – DEPARTMENT OF INTERNAL MEDICINE

Director: Professor Karen Sliwa

Awards/Recognition
- Professor Sliwa is the chair of the European Cardiac Society working group on Peripartum Cardiomyopathy and is leading the international registry on this disease (1000 patients to be recruited); EuroObs Program.
- Professor Sliwa has been appointed Vice president of the South African Heart Association.

Substantial research grants/ funding
- Professor Sliwa is the director of the Hatter Institute for Cardiovascular Research in Africa as well as the Director of the Soweto Cardiovascular Research Unit. She has obtained grants linked to both positions:

<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
<th>Duration</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Research Council</td>
<td>The Hatter Institute is part of the Inter-University Cape Heart Group which is supported by the Medical Research Council of South Africa.</td>
<td>1998 – 2014</td>
<td>R626,000 pa</td>
</tr>
<tr>
<td>Maurice Hatter Foundation</td>
<td>Ongoing support</td>
<td>1998 - 2012</td>
<td>R450,000 pa</td>
</tr>
<tr>
<td>Medical Research Council</td>
<td>Self Initiated Grant</td>
<td>1998 - ongoing</td>
<td>R130,000</td>
</tr>
<tr>
<td>National Research Foundation</td>
<td>Incentive Funding for Rated Researchers (B2-Rating)</td>
<td>2011 - ongoing</td>
<td>R80,000.00 pa</td>
</tr>
<tr>
<td>National Research Foundation/German Research Foundation Award</td>
<td>With collaborator Prof D Hilfiker-Kleiner, Hannover University Peripartum Cardiomyopathy project</td>
<td>2010 - 2012</td>
<td>R130,000 pa</td>
</tr>
<tr>
<td>National Research Foundation/German Research Foundation</td>
<td>With Prof M Boehm, for a Collaborative project for Microparticles in Peripartum</td>
<td>2011-2013</td>
<td>R150,000 pa</td>
</tr>
</tbody>
</table>
In addition, Professor Sliwa has been the Principal Investigator for several contracted research trials and have received ongoing funding for these trials since 1998 (INTERHEART, ORIGIN, HOPE, APPOLLO).

**Significant local collaborations**

- Professor Karen Sliwa is one of the PI's for the Wits/NIH Millenium Chronic Diseases of Lifestyle Leadership Program.

**Significant international collaborations**

- Professor Karen Sliwa is on the Steering Committee and a national investigator of two large international multi-centre trials, with 11 000 patients (HOPE III trial) and 12 000 patients (APOLLO trial).

**Participation in Congresses/Workshops**

- Professor Karen Sliwa's **Key lectures/ Invited talks in 2012:**
  - International Society of Hypertension, World Congress of Hypertension, Sydney Australia.
  - European Society of Cardiology Heart Failure Meeting, Belgrade, Serbia.
  - PHRI Clinical Trial Meeting, Canada. Cardiac Problems in Pregnancy, Berlin, Germany.
  - World Heart Federation, World Congress of Cardiology, Dubai.

- **PhD student, Sandra Pretorius** trainee of the Wits/NIH Millenium Chronic Diseases of Lifestyle Leadership Program attended the 5th Annual NIH Conference on the “Science of Dissemination & Implementation: Research on the crossroads” held on March 19-20 in Bethesda, Maryland. The purpose of the meeting was finding ways to fill the gap between research evidence and clinical and public health and policy. **Mrs Pretorius** also attended the Chronic Non-communicable Diseases and Disorders Research Training Networking Meeting held on 21-23 March at the National Institutes of Health in Bethesda and presented a poster on her research with the title, ‘Vitamin C but not thiamine deficiency in black African patients with heart failure in South Africa: Identifying the need for nutritional intervention in..."
the urban African setting'. She was also co-team leader for the theme ‘Diseases of Lifestyle’ as part of the Wits Research Day 2012 committee.

Student Supervision

- Dr Verena Rahn. MMed. Adherence to heart failure medication in Baragwanath Hospital. Graduated 2012.
- Dr Lara Goldstein. MMed. Comparison between arm and ankle blood pressure in emergency department. Graduated 2012.
- Ms Geraldine Lee. PhD: Clinical role of the 12 lead ECGs in the Heart of Soweto population. Graduated 2012-co-supervision.
- Dr Harron Abbasi. PhD: Apoptosis in hypertension (year 3).
- Dr Kemi Tibazarwa. PhD: Risk factor prevalence and genetic pathways in peri-partum cardiomyopathy (year 3)
- Dr Ogah. PhD: Natural history of a heart failure population in Soweto and Nigeria - year 3.
- Ms Sandra Pretorius. PhD: Community-based intervention programs for the prevention of chronic non-communicable diseases in Soweto. (NIH Millenium PhD Scholar).
- Dr Dike Ojji. PhD: The Usefulness Plasma NT pro-Brain Natriuretic Peptide and Novel Myocardial Markers in Assessing Left Ventricular Hypertrophy and Heart Failure in Hypertensive Native African Subjects. Registered 2011
- Mr Gerald Maarman. PhD. Cardioprotection in pulmonary arterial hypertension (PAH): A novel role of the SAFE pathway in a model of pulmonary arterial hypertension. Registered 2011
- Dr Friedrich Thienemann, Masters. PAPUCO – The Pan African Pulmonary Hypertension Cohort study: Implementation of an online research platform for sustainable research development in an African context.
- Mr P (Kevin) Govender. PhD. The development of a CPR training curriculum for ambulance paramedics, Registered 2012.

Postdoctoral Fellows

- Kim Lamont – Postdoctoral Fellow as part of the Wits/NIH Millenium Chronic Diseases of Lifestyle Leadership Program.

Significant Publications:


New research initiatives

- **Heart of Soweto (HOS) / Africa Primary Health Care Survey 2010 – 2013**

The survey will be an extension of a large project: **Mapping the emergence of heart disease in an urban Black African population in epidemiologic transition: “The Heart of Soweto/Africa Study”** initiated by Prof. Sliwa and her team. It examines the epidemiologic transition in cardiovascular risk factors and clinical presentations of heart disease in the predominantly black African community of Soweto via an advanced clinical registry of all patients attending the CH Baragwanath Hospital.

As reported in The Lancet 15 March 2008 (Sliwa et al.) we identified 4162 cases of CVD in 2006. Black Africans (85%) and women predominated (60%). The five most common diagnoses were hypertension (54%), heart failure (47%), valvular heart disease/ dysfunction (32%), coronary artery disease (15%) and diabetes (10%).

Overall, we found multiple threats to the current and future heart health of Soweto that requires long-term surveillance quantify and respond to the impact of epidemiological transition in this community.

We have extended our data collection to selected Primary Health Care Clinics in Soweto from 2010 and Vanguard Community Clinic (UCT Research clinic in Langa/Cape Town in 2011 & 2012).

- **Chronic Disease management program in PHC clinics in Soweto**;

Four Chronic Diseases awareness and screening for risk factors days at primary health care clinics in Soweto held during 2012, as well as regular lectures on the prevention and management of diabetes, high blood pressure and heart disease for people visiting the primary health care clinics, as well as the primary health care nurses.

- **Outreach program for African teenagers at secondary school level**

These included video clips on healthy lifestyle for teenager on u-tube, via the SOCRU website, as well as targeted education for teenagers, incorporating the “Healthy lifestyle for Teenagers” DVD and screening for risk factors days at secondary schools in Soweto.
DIVISION OF MEDICAL ONCOLOGY - DEPARTMENT OF INTERNAL MEDICINE

Professor Paul Ruff

Research awards

- Chairman of South African Society of Medical Oncology (Prof P Ruff)
- Executive Committee South African Society of Medical Oncology (Dr G Demetriou)
- Executive Committee South African Oncology Consortium (Dr G Demetriou)
- Member of Clinical Trials Committee of Medicines Control Council (Prof P Ruff)
- Member of Medicines Control Council (Prof P Ruff)
- Catherine Smillie Research Award (Dr C Penny)

Significant local research collaborations

- The HE Griffin Research Group on Colorectal Cancer in Young South Africans: (Prof P Ruff and Dr C Penny).

Significant international research collaborations

- VÉLOUR Translational Research Study in Colorectal Cancer: with University of Leuven in Belgium
- Professor Ambra Pozzi, Vanderbilt Medical Center, Nashville, USA
- Professor Manu Platt - Fellow, Keystone Symposia on Molecular and Cellular Biology, 2011-2012; Georgia Cancer Coalition Distinguished Scholar; Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University.

Staff and student participation in congresses and prize winners


Hosting of a Congress/Research Day/Research Workshop

- 1st University of Witwatersrand GP Oncology Congress (Johannesburg) 2012. (Conveners: Prof P Ruff, Dr C Benn, Dr G Demetriou).
- Current Advances in Cell and Molecular Biology, Satellite Symposium, as part of the 39th meeting of the Anatomical Society of Southern Africa, University of Witwatersrand, 22–25 May 2011 (Conveners: Dr C. Penny and Prof M. Hosie).
- Symposium of the Molecular Biosciences Research Thrust (MBRT) and the Sydney Brenner Institute for Molecular Biology, University of the Witwatersrand, 5th Dec. 2012 (Conveners: Dr C. Penny and Dr D. Mavri-Damelin).
Postdoctoral Fellows

- Clinical (Medical Oncology): Dr Omondi Ogude (2012)
  Dr Jason Naicker (2013)

Publications in the highest-impact journals


New research initiatives

- The role of cancer stem cells in solid tumours.

Confocal microscopy image of colon cancer stem cells isolated from the DLD1 human colorectal adenocarcinoma cell line, expressing the stem cell marker CD133. CD133 was detected with mouse monoclonal CD133 labelled with Alexa Fluor 568 (red); nuclei were stained with DAPI (blue); and cytoskeleton was labelled with Phalloidin conjugated to Alexa Fluor 488 (green). Microscope, Zeiss LSM 780 Confocal Microscope, original mag. 63X (acknowledgement, Ms B. Milner, PhD candidate).

- Pre-microRNA associated controls of the epidermal growth factor receptor in non-small cell lung cancer.
- Micro-RNA profiling of triple negative breast cancer, diagnostic and prognostic considerations.
- Targeting the sonic hedgehog pathway in colorectal cancer.

Prestigious research visitors

- Prof. Judith Jacobson- Columbia University, Mailman School of Public Health.
- Professor Manu Platt- Fellow, Keystone Symposia on Molecular and Cellular Biology, 2011-2012; Georgia Cancer Coalition Distinguished Scholar; Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University.
WITS REPRODUCTIVE HEALTH AND HIV INSTITUTE (WRHI) – DEPARTMENT OF CLINICAL MEDICINE

Director – Professor Helen Rees

Awards/Recognition

- The Shandukani Maternal & Child Health Centre won the Colosseum Award for Conserving Joburg, given for exemplary work in conservation of heritage buildings in the inner city.
- Shandukani also won the Sustainable Development Award at the 2012 Steel Awards.
- Dr Judith Mwansa-Kambafwile was promoted from Associate Researcher to Senior Researcher as Joint Staff in the Department of Clinical Medicine.

Significant research grants

- WRHI was awarded in excess of R204, 246, 957 in research grants in 2012, for varying study durations. A full list of grants awarded is provided in Appendix III.

Significant local and international collaborations

- FACTS – Follow-on African Consortium for Tenofovir Studies. The consortium, based at WRHI, includes a host of research institutions and is led by Professors Helen Rees and Glenda Gray (PHRU)
- HARP – HPV African Partnership – a collaboration between LSHTM, University of Montpellier, University of the Witwatersand and University of Ougadougou
- D4T study – The d4T study is a Phase 3 pivotal study to assess the safety and efficacy of low-dose stavudine (d4T) relative to the current standard preferred therapy, tenofovir. The aim is to see if lowering dosages will reduce common side effects of d4T and will allow this much cheaper ARV option to be more safely continued as part of the country’s ARV treatment regimens. The study will be implemented in three sites across South Africa, Uganda and India and is being led by Professor Francois Venter and co-ordinated by WRHI
- Well-being of Adolescents in Vulnerable Environments or “WAVE” – a six-city global study of young people in vulnerable environments with the goal of discovering ways to connect youth to health
- STRIVE (formerly Pathways) – RPC to tackle structural drivers of HIV in partnership with LSHTM, MITU, Karnataka Health Promotion Trust, ICRW in India and Washington DC
- Feasibility of Cash Transfer Interventions in Urban Populations – collaborations with Johns Hopkins
- mHealth – WRHI’s research around mHealth has a number of foci including three PhD-level research projects. The first looks at the impact of maternal health text messages on new mothers’ behaviour, the second investigates mHealth impact on loss to follow-up compared with standard of care, and the third PhD project focuses on retention to care and adherence of an integrated mHealth support service. Additional mHealth research at WRHI includes formative studies to guide our new and ongoing projects, investigating pre- and post-ART adherence, testing the use of mHealth for prevention services by sending supportive information around testing by SMS, using mobile phones to encourage parent engagement in child HPV vaccinations, and other innovative mHealth services that will soon be provided to special/vulnerable populations. Additional research will be conducted around the impact of mHealth in rural settings
• WRHI was also successful in three funding applications to USAID/PEPFAR, which, while focusing on programmatic outcomes, will contain significant research components and will involve collaboration with local and international partners:
  - Systems strengthening for better HIV/TB patient outcomes
  - Adolescent-friendly services for perinatally and behaviourally HIV-infected adolescents
  - Supporting the South African Government to Develop, Implement and Evaluate a National Sex Worker Plan

**Participation in Congresses/Workshops**

36 WRHI staff participated in 18 national and international scientific meetings in 2012. During the course of these meetings WRHI staff gave 19 oral (keynote, invited and abstract-driven) and 17 poster presentations.

Selected conference attendance information is given below.

- 31st Conference on Priorities in Perinatal Care in Southern Africa, Mpumalanga, March (n=4)
- CROI, Seattle, March 2012 (n=1)
- 12th Social Research Conference on HIV, Hepatitis C & Related Diseases, Sydney, Australia, April (n=1)
- Microbicides Conference, Sydney, Australia, April (n=6)
- International Forum on Quality and Safety in Health Care, Paris, France, April (n=1)
- GSMA-Mhealth Alliance Mobile, Cape Town, May (n=4)
- 3rd SA TB Conference, Durban, June (n=3)
- SAAHE Fifth National Conference, Bloemfontein, June (n=4)
- SASOCP Conference, Grahamstown, June (n=1)
- South African Sociological Association Conference, Cape Town, June (n=1)
- EUROGIN Conference 2012, Prague, July (n=1)
- XIX International AIDS Conference, Washington, DC, July (n=8)
- SAPA Conference 2012, Polokwane, August (n=2)
- Biennial Conference on Youth and Mental Health, Johannesburg, August (n=1)
- 5\textsuperscript{th} African Conference on Sexual Health & Rights, Windhoek, September (n=1)
- Hospice Palliative Care Association of South Africa, Cape Town, September (n=1)
- Bonitas Housecall & SAMA Conference, Johannesburg, September (n=1)
- South African HIV Clinicians Society Conference 2012, Cape Town, November (n=9)

**SCHOOL OF ORAL HEALTH SCIENCES**

**DEPARTMENT OF COMMUNITY DENTISTRY**

**Awards/Recognition**

- Professor Yengopal was appointed President of International Association of Dental Research South African Division

**Substantial research grants**

- Professor Yengopal received R50 000 for PhD research from SADA DDF Grant 2011/2012

**Significant local and international research collaborations**

**African links:**

- Obafemi Awolowo University
- University of Lagos
- University of Nairobi
- University of Botswana

**International links**
- University of Sao Paolo
- University of Brasilia
- University of Southhampton
- Kings College, London
- Harvard School of Dental Medicine
- Melbourne University

**SYSTEMATIC REVIEW INITIATIVE FOR EVIDENCE-BASED MINIMUM INTERVENTION IN DENTISTRY (SYSTEM) RESEARCH PROGRAMME – DEPARTMENT OF COMMUNITY DENTISTRY**

**Directors: Professor Yengopal and Dr S Mickenautsch**

**Significant Local and International Collaborations**

- Department of Biostatistics, GSPH, University of Pittsburgh, Pittsburgh, PA, USA / National Cancer Institute, National Institute of Health, Rockville, MD, USA
- Center for Evidence-Based Dentistry, The Forsyth Institute, 245 First Street, Cambridge, MA 02142, USA
- Department of Cariology and Endodontology, Peking University School and Hospital of Stomatology, 22 Zhongguancun South Street, Haidian District, Beijing, China

**Participation in Congresses/Workshops**

- The School of Oral Health Sciences hosted the 44th Scientific Programme of the International Association of Dental Research South African Division at Emperor’s Palace on 30, 31 August 2012- 01 September 2012.
- Professor Yengopal was the Judge of postgraduate competition and co-author of 4 Abstracts at IADR SA Division

**Hosting of a Congress/Research Day/Research Workshop**

- Hosted 44th Scientific congress of IADR SA Division, Emperor’s Palace, 30, 31 August – 01 September 2012
- Hosted a CPD Workshop for North West Province, 30 November 2012 at Brits. Attended by 172 oral health professionals

**Significant Publications**


Mickenautsch S. Coherence of evidence from systematic reviews as a basis for evidence strength – a case study in support of an epistemological proposition. BMC Res Notes 2012; 5: 26. [impact factor 1.00]


Mickenautsch S, Yengopal V. Reply to commentary: Poor quality evidence suggests that failure rates for atraumatic restorative treatment and conventional amalgam are similar. Evid Based Dent 2012; 13: 93-4.


Mickenautsch S, Yengopal V. Failure rate of high-viscosity GIC based ART compared with that of conventional amalgam restorations- evidence from an update of a systematic review. SADJ; 67; 329-331.

Yengopal V. Evidence based dentistry for clinical practice. SADJ 2012; 67: 39-42

Yengopal V. Evidence based dentistry for clinical practice. SADJ 2012; 67: 89-92

Yengopal V. Evidence based dentistry for clinical practice. SADJ 2012; 67: 140-144.

Yengopal V. Evidence based dentistry for clinical practice. SADJ 2012; 188-192.


Yengopal V. Evidence based dentistry for clinical practice. SADJ 2012; 67: 483-486

Yengopal V. Evidence based dentistry for clinical practice. SADJ 2012; 67: 528-532

New research initiatives

Nutritional Intervention Research assessing the impact of a fortified food on adult TB patients and children in Alexander

Londiwe Sibisi- Community Outreach Program Dentist

Dr Sibisi arranged and coordinated a successful celebration of National Oral Health Month in September 2012. As Department of Community Dentistry, we commemorated the day with pupils from Forest Town School, where we raining awareness on Oral Health. The event was covered in the following media:
Newspaper: The New Age, Rosebank Killarney Gazette; Journals: Public Health Association of South Africa (PHASA); South African Medical and Dental Practitioners (SAMDP), Wits Health Sciences Review; Radio interviews: Lotus FM; 702 FM; Soshanguve FM; TV broadcast: SABC Kids News; Bonitas TV Show

Visitors
- Professor Tope Ogunbodede – Nigeria – collaborator on HIV/AIDS and Poverty and Research Methodology
- Eisenhower Mary J & Jones Paula S. Dental Health Delegation to South Africa – People to People International (Academy of General Dentistry) – visited community Dental Outreach Program in Feb 2012.

DEPARTMENT OF EXPERIMENTAL ODONTOLOGY

Awards/recognition
- Dr J Molepo-appointed Guest Editor for SADJ Festschrift for School of Oral Health Sciences.

Significant local and international research collaborations
- University of Otago, New Zealand
- Hain Lifescience Company
- University of Limpopo (Medunsa Campus)

Participation in Congresses/ Workshops
- J. Molepo, E Musenge. Clade-related phenotypic switching among fluconazole resistant Candida albicans isolates: IADR Emperor’s Palace, August, 30-31 August. (Poster presentation)

Hosting of a Congress/Research Day/Research Workshop
- Dr J. Molepo: Organized Writing retreat for School of Oral Health Sciences
- Organized Launching of School of Oral Health Sciences Festschrift
- Organized Postgrad get-together for School of Oral Health Sciences
- Organized Postgrad EXPO for School of Oral Health Sciences, 19 September
- Dr J Molepo co-ordinated Lunch-hour talks for School of Oral Health Sciences

Significant Publications
DEPARTMENT OF GENERAL DENTAL PRACTICE

Participation in congresses

- Dr Kotsane attended IADR hosted by Wits School of Oral Health Sciences at Emperors Palace Johannesburg.

DEPARTMENT OF MAXILLO FACIAL AND ORAL SURGERY

Appointments

- Dr Ferretti promoted to Associate Professor

Awards/Recognition

- Dr Hanli Engelbrecht won the KLS Martin Registrar Award of the SASMFOS October 2012.

Participation in Congresses/ Workshops

The following congress presentations were made at the 3rd Pan African Conference on Oral & Maxillo-Facial Surgery. Vineyard Hotel Conference Centre, Cape Town. 11-14 October 2012.

- Dr E Rikhotso. “Alloplastic temporomandibular joint replacement: the Wits experience with the Biomet microfixation system.”
- Dr W van der Linden. “5 Keys to implant success”
- Dr B Geldenhuys. “Bilateral sagittal split mandibular ramus osteotomy: the influence of stripping the medial pterygoid muscle on proximal segment control for mandibular advancement procedures”
- Dr N Karachi. “An immunohistochemical study on bcl-6 expression in odontogenic cysts.”


Significant Publications


DEPARTMENT OF ORAL MICROBIOLOGY

Appointments

- Dr M Patel was promoted to Associate Professorship
Awards/Recognition
- Undergraduate: Student clinician programme, Dentsply award was awarded to Schalk van den Linde a final year student.

Participation in Congresses/ Workshops
- Pathogenic characteristics of Candida albicans isolated from the saliva of denture wearers and cancer patients wearing oral prostheses Mothibe V, Coogan MM and Patel M. IADR, XLIV Scientific meeting of the South African Division – IADR, Johannesburg, South Africa. 2012 and Faculty research day 2012 and Cross faculty symposium, Wits 2012
- Antifungal susceptibility of Candida albicans isolated from the oral cavities of HIV positive patients Gulube Z, Owotade F, Patel M IADR, XLIV Scientific meeting of the South African Division – IADR, Johannesburg, South Africa. 2012 and Faculty research day 2012

Significant publications

DEPARTMENT OF PAEDIATRIC & RESTORATIVE DENTISTRY

Participation in Congresses/ Workshops
- Professor Shackleton, Drs Mokhine, Tootla and Gani attended the XLIV Meeting of the South African Division of the IADR at Emperor’s Palace, September 2012

New research initiatives
- Clinical Use of Hard Tissue Lasers in Paediatric & Restorative Dentistry

Significant Publications

Conference Presentations
- Volchansky A, Cleaton-Jones PE, Evans WG, Shackleton JL. Previous tooth loss in five dental practice types. XLIV Meeting of the South African Division of the IADR at Emperor’s Palace, September 2012
- Tootla S, Owen CP. A comparison of endodontic treatment outcomes between HIV-positive and HIV-negative patients. XLIV Meeting of the South African Division of the IADR at Emperor’s Palace, September 2012
- Khan-Patel M, Shackleton JL, Setzer S. Prevalence of Early Childhood Caries in Pre-School Children in Polokwane. XLIV Meeting of the South African Division of the IADR at Emperor’s Palace, September 2012
• Patel E, Tootla S. Hand versus Rotary Instrumentation in Endodontically Treating single-rooted teeth. XLIV Meeting of the South African Division of the IADR at Emperor’s Palace, September 2012

DEPARTMENT OF PERIODONTOLOGY

Awards/recognition

• Professor NH Wood: Appointed as Deputy President of the South African Association of Periodontology
• Professor SL Shangase: Appointed as the National Spokesperson for the SADA 2013 community awareness project. Theme: Periodontitis and Systemic Health

Participation in Congresses/ Workshops

Oral Presentations

• GU Mohangi – World Conference on HIV and AIDS, India. Title: Prevalence of oral lesions associated with HIV infection in a south African population
• GU Mohangi - IADR Emperor’s Palace. Title: Activity of DBM augmented with xenogeneic BMP-complex in rats
• A Volchansky – IADR Emperor’s palace. Title: previous tooth loss in patients in five dental practice types

Poster Presentations:

• SL Shangase – IADR Emperor’s Palace. Title: Characterizing chronic vesiculobullous lesions in patients during a 10-year period
• S Singh – IADR Emperor’s Palace. Title: Attachment formation by allogenic fibrin-fibronectin on Papio Ursinus transplanted roots
• Dr A Moodley – IADR Emperor’s Palace. Title: The prevalence of HIV-associated oral lesions in Ga-Rankuwa

Chairing Sessions:

• NH Wood – SADA 2012 Congress
• GU Mohangi – World Conference on HIV and AIDS, India

Judging Competitions:

• SL Shangase – IADR Emperor’s Palace. Colgate undergraduate competition
• NH Wood – 4th Cross Faculty Graduate Symposium
• GU Mohangi – World Conference in HIV and AIDS, India

Hosting of a Congress/Research Day/Research Workshop

• NH Wood: Congress Convener – IADR Emperor’s Palace

Significant Publications


**DEPARTMENT OF ORAL HYGIENE**

**Awards/Recognition**
- Ms Ralephenya was invited to be a reviewer for the International Journal of Dental Hygiene

**Significant Local and International research collaborations**

**Local links:**
- Special Olympics
- OHEF

**African links:**
- Faculty of Dentistry, Obafemi Awolowo University, Ile-Ife, Nigeria

**Significant Publications**


- Foluso J. Owotade, Mrudula Patel, Tshakane R. M. D. Ralephenya and Glynnis Vergotine. Oral Candida colonization in HIV-positive women: associated factors and changes following antiretroviral therapy *Journal of Medical Microbiology* (2013), 61, 000–000 DOI 10.1099/jmm.0.047522-0

**New research initiatives**

- Microbial contamination of toothbrushes from patients attending the Oral Hygiene clinic of the Wits Oral Health Centre at the University of the Witwatersrand, Johannesburg in South Africa. (T. Ralephenya in collaboration with Prof Volchansky, Prof Shangase and Dr Molepo)

- Knowledge, Attitude and Practices of dental professionals regarding sugar free chewing gum. (G. Vergotine and A. Moolla)

**DEPARTMENT OF ORAL PATHOLOGY**

**Awards/Recognition**

- **Meer S**: Guest Editor for *Head and Neck Pathology* [July 2011 until July 2014]

- **Meer S**: Invited as Lead Guest Editor for Special Issue in *International Journal of Dentistry* [2012/2013]

**Substantial research grants**

- NHLS Research Trust: R90 000:
**Patel K, Mahomed F, Meer S**: A comparative immunohistochemical study of the “biphasic ductules” in adenoid cystic carcinoma, pleomorphic adenoma and epi-myoeplithelial carcinoma

- **NHLS Research Trust: R90 000:**
  - **Meer S, Perner Y, Willem P**: Assessments of MYC re-arrangements in extra-oral plasmablastic lymphomas

**Significant local and international research collaborations**

- University of Vermont, USA: Paquette C, **Meer S**, Cooper K, Evans, M, Adamson, C, Rajendran V. HPV-31: a dominant genotype in black South African oropharyngeal carcinomas
- University of Limpopo, South Africa: **Chandran R, Meer S**, Feller L. Oral leukoplakia in a South African sample: a clinicopathological study
- University of Limpopo, South Africa: Khammissa R, **Meer S**, Feller L. Oral squamous cell carcinoma in a South African sample: a clinicopathological study

**Participation in Congresses/ Workshops**

- Disenyane D, **S Meer**. p16 expression in non-keratinising squamous cell carcinoma of the head and neck. XXIX Congress of the International Academy of Pathology, Cape Town, South Africa, 30 September – 5 October 2012
- Kungoane T, **Meer S, Mahomed F**. Ki-67 expression in salivary gland neoplasms. XXIX Congress of the International Academy of Pathology, Cape Town, South Africa, 30 September – 5 October 2012
  - Perner Y, Naidoo S, **Meer S**, du Toit H, Suleman MC, Willem P. EBV status in extra-oral plasmablastic lymphoma XXIX Congress of the International Academy of Pathology, Cape Town, South Africa, 30 September – 5 October 2012
  - K Patel, F Mahomed, **S Meer**. A comparative immunohistochemical study of the “biphasic ductules” in adenoid cystic carcinoma, pleomorphic adenoma and epithelial-myoeplithelial carcinoma. Health Sciences Research Day & Postgraduate Expo 2012, University of the Witwatersrand, Faculty of Health Sciences, Johannesburg, September 2012
  - Gani F, **Mahomed F, Meer S**. Ki-67 and cyclin D1 in odontogenic keratocysts and orthokeratinised jaw cysts. XLIV Scientific Meeting of the South African Division of the IADR, Emperor’s Palace, Johannesburg, South Africa, August 30 – 31, 2012

**Signficant Publications**

- Dulabh S, **Meer S**. Cystic lymphoid hyperplasia: an orofacial lesion strongly associated with HIV and AIDS. Histopathology (in press)
• Meer S, Kungoane T, Altini M. Parotid lymphoid proliferation in HIV positive children. *Oral Diseases* (submitted)


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**SCHOOL OF PATHOLOGY**

**ANTIVIRAL GENE THERAPY RESEARCH UNIT**

**Director:** Professor Patrick Arbuthnot

**Appointments**

• Simon Waddington, director of the Gene Transfer Technology Group at University College London, has been appointed as an honorary reader in the AGTRU. This particularly useful engagement will be important for strengthening of research and joint supervision of postgraduate students within both groups.

**Substantial research grants**

• The Antiviral Gene Therapy Research Unit (AGTRU) received a renewal of its NRF Nanotechnology Flagship Programme Grant. This substantial support (approx. R5m) for three years from 2012 is to enable research on the development of nucleic acid-based therapy for treatment of persistent hepatitis B virus infection. The grant is also to support collaborative work with organic chemists at Wits as well as groups from University of kwaZulu Natal and the University of Stellenbosch.

**Significant international research collaborations**

• Kristie Bloom, a PhD student in the AGTRU, recently worked in the laboratory of Professor Toni Cathomen (Hannover and now Freiberg, Germany) as a visiting research student. She gained valuable expertise in the design and engineering of transcription activator like effector proteins, which are capable of targeting and disabling specific hepatitis B virus sequences. This is particularly useful technology and holds promise for developing more effective treatment of HBV infection. This interesting topic is rapidly becoming an important focus of the AGTRU research activities.

• A productive research partnership has been established with the group of Professor Joachim Engels at the Goethe University in Frankfurt, Germany. The collaboration has yielded promising results and the
investigations are aimed at exploring the utility of novel chemically modified gene silencing sequences that are capable of inhibiting hepatitis B virus proliferation. This work will shortly be published and has recently been the subject of a patent submission.

**DST/NRF CENTRE OF EXCELLENCE FOR BIOMEDICAL TB RESEARCH (CBTBR)**

**Head of Node: Dr Bavesh Kana**

**Appointments**

- Dr. Kana from the Wits node of the CBTBR was appointed as an Early Career Scientist of the Howard Hughes Medical Institute.

**Awards/Recognition**

- The CBTBR enjoyed significant distinction during 2012, with many students and staff receiving awards and fellowships. Most significant was the appointment of Dr. Kana as an Early Career Scientist of the Howard Hughes Medical Institute after a fiercely competitive process which involved almost 800 applicants worldwide. Dr. Kana is one of only 26 scientists from around the world to receive this prestigious award and represents one of only two awards made in Africa. The award comes with a R 6 million grant, over the period of five years and is testimony to the world class research being conducted at the Centre of Excellence here at Wits. In addition, Dr. Kana was also appointed as one of the top 200 Young South Africans by the Mail and Guardian newspaper. The Mail and Gaurdian 200 Young South African list comprises those individuals who are expected to make a significant impact in South Africa and play a key leadership role in the country. This notable distinction once again reaffirmed the world class research being conducted by Dr. Kana and his team at the Wits node of the CBTBR. Both Dr. Kana and Dr. Gordhan were honoured for their research achievements at the annual Faculty Research Awards dinner.

**Substantial research grants**

The 2012 fiscal year saw a notable increase in the grant funding awarded to the CBTBR, the most significant grants are listed below:

**DST/NRF Centre of Excellence for Biomedical TB Research**

Kana, BD (PI)  
1/01/12 – 31/12/2017  
Grant number: DCOE000  
South African Department of Science and Technology – National Research Foundation  
Thus program grant supports various research activities around the identification and validation of new drugs for TB

**Detection of Rpf-Dependenty populations in the sputum of TB patients**

Kana, BD(PI)*  
01/08/2012 – 28/02/13  
Grant number: WHC Syndicate – CBTBR  
DAIDS, National Instutes of Health  
Title: Detection of Rpf-dependent populations in the sputum in TB patients
*Subcontract to CTU grant awarded to Prof Glenda Gray, Perinatal HIV Research Unit (PHRU)

**MRC Career Development Award**
Kana, BD (PI)
1/01/12 – 31/12/12
Grant number: Kana009
South African Medical Research Council
Title: The characterization of resuscitation promoting factors in *Mycobacterium tuberculosis*

**Friedel Sellschop Research Award**
Kana, BD (PI)
1/01/12 – 31/12/12
Grant number: 001.259.8468202.5121105.000000.0000.9070
Wits University
Title: Identification of interacting protein partners and cellular localization of resuscitation promoting factors in mycobacteria

**South African TB Research and Innovation Initiative (SATRII)**
Gordhan, BG (PI)
1/01/12 – 31/12/12
Grant number: MIC50
Department of Science and Technology/ Technology Innovation Agency
Title: Validation of the inhibitory activity of novel anti-tuberculosis compounds

**MRC Career Development Award**
Gordhan, BG (PI)
1/01/2012 - 31/21/13
Grant number: BGOR000
South African Medical Research Council
Title: The use of microarray technology to assess gene expression profiles of mutants of *Mycobacterium tuberculosis*.

**Significant local research collaborations**
The CBTBR plays a central role in the Wits Aurum Coalition for the elimination of TB and in this context has forged several local collaborations to facilitate research on detecting dormant bacterial populations in the sputum of patients with active TB disease. These include the following:

**Gavin Churchyard**
Chief Executive Officier
The Aurum Institute

**Fiona Shahim/ Mara Gibsion**
Contract Laboratory Services
The National Health Laboratory Services

**Neil Martinson/ Glenda Gray**
Perinatal HIV Research Unit
Chris Hani Baragwananth Hospital
The CBTBR is also involved in a collaborative study with Mycobacteriology Referral Laboratory at the NHLS. This study aims to analyse the discordance between the Line Probe Assay and phenotypic drug susceptibility testing for rifampicin, collaborators in this study are listed below:

**Natalie Beylis and Pedro da Silva**  
Mycobacteriology Referral Laboratory  
National Health Laboratory Services (Central)

The CBTBR has also played a prominent role the national rollout of the novel GeneXpert diagnostic tool by providing mono-dispersed killed *Mycobacterium tuberculosis* for the external quality assurance and validation programs. The collaborators in this study are indicated below:

**Wendy Stevens and Lesley Scott**  
Molecular Medicine and Haematology  
School of Pathology  
Wits Medical School

In 2012, Dr Kana from the CBTBR initiated a new collaboration to study the possible immune modulatory functions of the resuscitation promoting factors in *Mycobacterium tuberculosis*. In this case, *Mycobacterium smegmatis* was used as a model organism. The collaborator in this case is listed below:

**Melinda Suchard**  
Molecular Medicine and Haematology  
School of Pathology  
Wits Medical School

Dr. Bhavna Gordhan from the Wits node of the CBTBR has engaged in a large collaborative study (SATRII – indicated above, under Grants) that involves several local collaborators. These include colleagues from the UCT node of the CBTBR, with chemistry support being provided by iThemba Pharmaceutica. The collaborators in this instance are listed below:

**Valerie Mizrahi and Digby Warner**  
MRC/UCT/NHLS Molecular Mycobacteriology Research Unit  
DST/NRF Centre of Excellence for Biomedical TB Research  
University of Cape Town

**Chris Edlin**  
iThemba Pharmaceutica  
Modderfontein

In addition to the SATRII initiative, the CBTBR has also undertaken a new TB drug development project with the University of Pretoria. In this case, the CBTBR will be providing a screening platform and biology followup with new compounds through mutant generation and target identification. An MoU for this project is currently being signed between Wits and the University of Pretoria. The collaborator for this project is listed below:

**Prof. Debra Meyer**  
Biochemistry Department  
University of Pretoria
Pretoria

Significant international research collaborations

Members of the CBTBR currently undertake several collaborative research projects with leading international groups in the TB field. One the principal research thrusts in the Unit is the analysis of cell wall turnover in bacteria during infection and throughout the extended periods of dormancy that are thought to prevail in the human host. To further explore this, the laboratory has generated several mutant strains that are defective in enzymes predicted to be involved in hydrolysis of peptidoglycan in the cell wall. These mutants are currently being studied in a collaborative project that involves two significant TB research groups, these are detailed below:

**Neeraj Dhar**
Faculte Des Sciences De La Vie, Global Health Institute.
Ecole Polytechnique Federale De Lausanne

**Eric Rubin**
Department of Immunology and Infectious Diseases
Harvard Medical School

The presence of Rpf dependent bacteria in animals is currently being pursued with another US Collaborator:

**Gilla Kaplan**
Public Health Research Institute
University of Medicine and Dentistry of New Jersey

The study of Rpf dependent bacteria in human populations is currently being pursued with the following collaborators:

**Michael R. Barer and Galina Mukamolova**
Department of Infection, Immunity and Inflammation,
University of Leicester

**William R. Mac Kenzie (MD)**
Tuberculosis Trials Consortium
Clinical and Health Systems Research Branch Division of Tuberculosis Elimination Centers for Disease Control and Prevention, Atlanta, USA

Participation in Congresses/ Workshops

The following congresses were attended by staff and students in 2012. The name of the person presenting is indicated in bold script, where relevant, if a prize was obtained – this is also indicated.


- Kana B. Resuscitation promoting factors in bacterial growth and cell wall remodelling - Extreme Makeover for the Cell wall. Poster presentation at the Annual HHMI Scholars Meeting. HHMI Headquarters, Chevy Chase, Maryland, USA. 14-17 February 2012.


- Sensani S. My Journey at the CBTBR. Oral presentation at the DST/NRF Centre of Excellence Director’s Forum. Sanlam Centre, Pretoria, South Africa. 13th November 2012


• Senzani S, Kana B. The role of resuscitation promoting factors in peptidoglycan hydrolysis and reactivation from dormancy in *Mycobacterium smegmatis*. **Poster presentation** at the SASBMB/FASBMB Congress 2012 - The South African Society of Biochemistry and Molecular Biology. Champagne Sports Resort, Drakensberg, KwaZulu-Natal, 29 January – 1 February 2012.


• Goosens V, Mizrahi V, Gordhan B. The role of DNA glycosylases in mutagenesis and adaptation to stress in mycobacteria. **Poster presentation at the Keystone Symposia |Drug resistance and persistence in tuberculosis. Kampala, Uganda. 13th – 18th May 2012. Prize: Received the Bill and Melinda Gates Foundation Global Health Travel Award**


• Chengalroyen M, Kana B. The role of resuscitation promoting factors in the reactivation of Mycobacterium tuberculosis in sputum. **Poster presentation** at the Wits Health Sciences Research Day & Postgraduate Expo 2012. Wits Medical School, Johannesburg, South Africa, 19th September 2012.


• Chengalroyen M, Kana B. The role of resuscitation promoting factors in the reactivation of Mycobacterium tuberculosis in sputum. **Poster presentation** at the SASBMB/FASBMB Congress 2012 - The South African Society of Biochemistry and Molecular Biology. Champagne Sports Resort, Drakensberg, KwaZulu-Natal, 29 January – 1 February 2012.

**Participation of CBTBR students and staff in Workshops**

- Asmal R. How to write a paper. Wits University, Johannesburg, 28th May 2012.
- Asmal R. How to make a poster. Wits University, Johannesburg, 11th September 2012.
- Asmal R. How to chair a session. Wits University, Johannesburg, 3rd October 2012
• **Beukes G.** Introduction to digital imaging. Zeiss Headquarters, Johannesburg, 23rd – 26th July 2012.
• **Senzani S.** Introduction to digital imaging. Zeiss Headquarters, Johannesburg, 23rd – 26th July 2012.
• **Ealand S.** Introduction to digital imaging. Zeiss Headquarters, Johannesburg, 23rd – 26th July 2012.

Hosting of a Congress/Research Day/Research Workshop

• In 2012, Dr Kana from the Wits node of the CBTBR Chaired the Wits Health Sciences Research Day 2012. Please see the Research Day report for further information. Dr. Kana also chaired the Basic Sciences Track of the 3rd SA TB Conference, held in June 2012 at the ICC in Durban. The CBTBR also hosted an HPLC training workshop facilitated by Anatech Instruments (Pty) Limited, on the 31st October 2012.

Postdoctoral Fellows

<table>
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<th>Name</th>
<th>Person Number</th>
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<td>Melissa Chengalroyen</td>
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<td>2011</td>
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<td>Christopher Ealand</td>
<td>A0025839</td>
<td>2011</td>
<td>Mixed race/male</td>
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</table>

Significant Publications


New research initiatives

• The Wits node of the CBTBR has recently played a central role in the use of new molecular methods to diagnose TB and drug resistance. This information and adapted techniques will now be used in other parts of the world to develop instruments to diagnose TB. The Wits node of the CBTBR played a central role in the national rollout, by the NHLS, of the novel Xpert MTB/RIF diagnostic tool in South Africa which allows for faster TB diagnosis. For this, the Wits node developed and optimized methodology for large scale, single-cell, production of pathogenic mycobacteria and non-tuberculous mycobacteria for use in instrument verification and for setting up an external quality assurance system (EQA). The EQA enables routine instrument verification of all instruments in the field and facilitates the use of Xpert MTB/RIF as a point of care diagnostic tool thereby increasing the impact of this novel technology on TB control in South Africa. The consistent production of high quality, inactivated bacterial suspensions by the CBTBR for this program has attractive significant international interest from WHO, FIND, PATH and other major significant stakeholders in diagnostic development. In this context, the CBTBR will make global impact on the uptake and rollout of Xpert MTB/RIF.

Visitors

The Wits node of the CBTBR hosted several prestigious visitors during 2012. These are detailed below:

• **Gilla Kaplan.** Principle Investigator – Laboratory of Mycobacterial Immunity and Pathogenesis, Public Health Research Institute, New Jersey, USA. Prominent international Researcher and the international representative on the Board of the CBTBR. 21st May 2012
• **Richard Hafner.** Program director, Division of AIDS, National Institutes of Health. Visit to discuss collaborative project on Rpf-dependent bacteria in sputum. 15th October 2012.
• **William R. Mac Kenzie.** US Public Health Service, Tuberculosis Trials Consortium,
Clinical and Health Systems Research Branch Division of Tuberculosis Elimination, Centers for Disease Control and Prevention, USA. Visit to discuss collaborative project on Rpf-dependent bacteria in sputum. 20th September 2012.

Ralph Schneideman and Tope Adepoyibi. PATH, USA. Visit to discuss commercialization of the bulk preparations of killed pathogenic mycobacteria currently being produced by the CBTBR. 31st October 2012.

Debra Meyer, Biochemistry Department, University of Pretoria. Collaborative visit to discuss screening of new compounds for TB drug development. 25th September 2012.

Chris Edlin (Chief Scientific Officer) and team, iThemba Pharmaceuticals (Pty) Ltd. Meeting and site visit to discuss identification of new TB targets. 8 March 2012.

MALARIA ENTOMOLOGY RESEARCH UNIT

Director: Professor Maureen Coetzee

Awards/Recognition

- Professor Maureen Coetzee received the following recognition: American Mosquito Control Association’s John N Belkin Memorial Award, Texas, USA.

Substantial research grants

- National Research Foundation (SARChI, rated scientists awards)
- Medical Research Council of South Africa
- NHLS Research Trust
- National Energy Commission of South Africa (NECSA)
- International Atomic Energy Agency (IAEA)
- Gates Foundation (IVCC – Liverpool School of Tropical Medicine, UK)
- National Institutes of Health (ICEMR – Johns Hopkins Malaria Institute)

Significant local research collaborations

- A sterile insect technique project is underway in collaboration with the Nuclear Energy Commission of SA (NECSA) and the MRC, based in the Kruger National Park and northern Kwazulu/Natal. The relative fitness and mating compatibility between laboratory colonized and wild populations of *Anopheles arabiensis* from the Kruger National Park have been evaluated in order to assess the potential for development of the sterile insect technique for malaria vector control in South Africa.
- Insecticide formulations were evaluated for collaborators at the University of Pretoria through a project grant from the Gates Foundation Grand Challenges Exploration initiative. Possible causes of insecticide degradation (temperature, humidity, pH and UV light) were tested on the four different classes of insecticides approved by the World Health Organization for use in malaria vector control.
- A project to evaluate the adaptive significance of metabolic rates and quiescence in various life stages of *Anopheles gambiae* has been undertaken in collaboration with Prof Francis Duncan from the School of Animal, Plant & Environmental Sciences in the Faculty of Science.

Significant international research collaborations

- The NIH International Centre of Excellence in Malaria Research (ICEMR, southern Africa) has been awarded to The Johns Hopkins School of Public Health Malaria Institute and MERU is a partner in this award. It is a 7-year grant and our role is to study insecticide resistance in malaria vector mosquitoes in Zambia and Zimbabwe.
Collaboration with the Liverpool School of Tropical Medicine resulted in capacity building for DNA micro-array technology and the publication of micro-array data analysis of pyrethroid resistance in the major malaria vector, *Anopheles funestus*. A PhD student received specialist training in Liverpool in molecular association mapping. This technique is used to characterise the genetic components of staggered time-to-hatch of eggs in the malaria vector *Anopheles gambiae*.

Research on entomopathogenic fungi, in collaboration with Penn State University, continued to show that fungi could play a significant role in malaria vector control as an add-on to the mainstream interventions of indoor spraying and insecticidal bed nets.

**Participation in Congresses/ Workshops**

- Gilbert, A.E., Spillings, B.L., Koekemoer, L.L. & Coetzee, M. 2012. Forensic entomology on the Gauteng Highveld, South Africa *XXIV International Congress of Entomology, Daegu, South Korea*.


Postdoctoral Fellows
• Choi, K.S. (Korea) 2008-2013. Hillel-Friedland Fellowship
• Munhenga, G. (Zimbabwe) 2010-2012. NECSA
• Bennet, A. (RSA) 2011-2012. NRF
• Vezenegho, S. (RSA) 2012. Claude Leon Foundation
• Dahan, Y (RSA) 2012-2013. NRF

Significant Publications


Visitors
• Dr. Neil Jarvis, NECSA (Nuclear Energy Commission of SA), Dr. Kwaku Aning and Dr. AJC Cabezon, International Atomic Energy Agency (IAEA), visited to discuss the sterile insect release project in South Africa.

• Mr. Mark Edwardes, Bayer SA Pty Ltd, visited to discuss a field trial for testing new Bayer products for malaria vector control in South Africa.

• Dr. Tessa Knox, Vestegaard-Frandsen (Disease Control Textiles, Switzerland) visited to discuss the mapping of mosquito resistance in Africa.

• Professor Peter Agre, Nobel Laureate in Chemistry 2003, Director of the Johns Hopkins Malaria Research Institute, USA, visited to discuss the progress of the International Centre of Excellence in Malaria Research on which we are collaborators. We also discussed the establishment of the Wits Research Institute for Malaria and possible formal linkages with JHMRI. Professor Agre presented a lecture to Faculty on aquaporins.
Professor Peter Agre (right), 2003 Nobel Laureate, Director of the Johns Hopkins Malaria Research Institute with staff of the School of Pathology, from left – Professors John Frean, Maureen Coetzee and Lucille Blumberg.

Students supervision

- Azizi, S. 2012. MSc by coursework and research report. TANZANIA.
- Haji, K. 2012. MSc by coursework and research report. ZANZIBAR.
- Mwagomba, B. 2012. MSc by coursework and research report. MALAWI.
- Norton, R. 2012. MSc. SOUTH AFRICA.
- Spillings, B. 2012. PhD. SOUTH AFRICA.
- Vezenegho, S. 2012. PhD. SOUTH AFRICA.

HUMAN GENOMIC DIVERSITY AND DISEASE RESEARCH UNIT

Director: Professor Himla Soodyall

Awards/Recognition

- Professor Soodyall was elected to the Council of the Academy of Science of South Africa (ASSAf) for four years (2012-2016).

Substantial research grants

- MRC Unit grant (ended September, 2012).
- Genographic Project: National Geographic Society.
- H3Africa project supported by NIH (member of the team from Wits, PI: Professor M Ramsay).

Significant local collaborations

- H3Africa project supported by NIH (member of the team from Wits, PI: Professor M Ramsay).
- Professor M Lombard (University of Johannesburg).

Significant international collaborations

- Professor Mattias Jakobsson and Dr Carina Schlebusch (Uppsala University, Sweden).
- Genographic team.
Participation in Congresses/ Workshops

- Soodyall, H. The place of the Khoe and San in human history. 2nd August, 2012. Wits Public Lecture (90 years celebration). WITS.
- Soodyall, H. Where do we come from? International Pathology Conference, Cape Town, 1-5th October, 2012. Invited to give a plenary talk.
- Soodyall, H. Genetic footprints into the past. 28th November, 2012. Public Lecture, Wits 90 year celebrations. WITS.

Significant Publications


Visitors

- Mattias Jakobsson, Carina Schlebusch, Pontus Sjodin (Uppsala University, Sweden); Visit in February, 2012. Participated in seminars here at the Division of Human Genetics, at the IHE (Wits), University of Pretoria, and also did a workshop at the Wits Bioinformatics node. Discussions on future collaborations and with IHE for ancient DNA studies.
SCHOOL OF PHYSIOLOGY

CARDIOVASCULAR PATHOPHYSIOLOGY AND GENOMICS RESEARCH UNIT

Director: Professor Gavin Norton

Substantial research grants

- Aletta Esterhuysse
  - Carnegie Large Research Grant
  - Ernst & Ethel Eriksen Trust

Staff and student participation in congresses

- Southern African Hypertension Society Congress (Cape Town)
  - All CPGRU members
  - Michelle Redelinghuys (1st prize oral presentation)
- Physiological Society of Southern Africa Annual Congress (Stellenbosch)
  - Andrew Raymond (2nd prize in the Wyndham Competition)
  - Bryan Hodson
  - Le Roux Booysen
  - Mhlengi Magubane
  - Fabian Maunganidze
- AHA High Blood Pressure Research Congress (Washington, USA)
  - Gavin Norton
  - Angela Woodiwiss
  - Aletta Esterhuysse
- Faculty of Health Sciences Annual Research Day
  - Vernice Peterson
  - Andrew Raymond
  - Le Roux Booysen
- University of the Witwatersrand Cross Faculty Symposium
  - Aletta Esterhuysse (1st prize poster presentation)
- Association of African Physiological Sciences (AAPS) Ismailia, Egypt
  - Fabian Maunganidze

Significant Publications


**Significant research appointments**

- Patrick Dessein (Professor - Honorary Professorial Research Fellow)

**Visitors**

- Debbie Cohen – Renal Electrolyte and Hypertension Division, University of Pennsylvania, Philadelphia, USA

**BRAIN FUNCTION RESEARCH GROUP**

**Director: Professor Andrea Fuller**

**Awards/Recognition**

- **Duncan Mitchell** was awarded a D Sc (*honoris causa*) from the University of the Witwatersrand and was a finalist in the BHP Billiton/South African National Science and Technology Forum lifetime awards. Duncan was also re-awarded an A1 rating by South African National Research Foundation and appointed Visiting Professor, School of Anatomy, Physiology and Human Biology, University of Western Australia. Duncan also acted as a consultant to the University of the Free State’s Prestige Scholar Programme and was appointed theme coordinator for climate change and conservation physiology, Gobabeb Research Consortium, Namibia.
- **Peter Kamerman** was elected as the president-elect of the Pain Society of South Africa (PainSA); the first non-clinician to be elected to this position. He was also elected as secretary of the Neuropathic Pain Special Interest Group (NeuPSIG) of the International Association for the Study of Pain (IASP) and the chair of the Developing Countries Sub-committee of NeuPSIG. Peter was invited as the only African representative on the Scientific Programme Committee of the 4th International Congress on Neuropathic Pain, Toronto, 2013 and was involved in the development and curatorship of: *NeuPSIG neuropathic pain screening tools database* ([www.neupsig.org](http://www.neupsig.org)).
- **Andrea Fuller** was appointed to the Royal Society of South Africa Council and was appointed as an editorial board member of the journal *Koedoe*.
- **Alison Bentley** and **Karine Scheuermaier** were elected to the board of the South African Society of Sleep Medicine.
**Substantial research grants**

<table>
<thead>
<tr>
<th>Member</th>
<th>Research Grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea Fuller</td>
<td>NRF Incentive Funding Programme</td>
</tr>
<tr>
<td>Lois Harden</td>
<td>Carnegie Large Research Grant</td>
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<td></td>
<td>Friedel Sellschop Award</td>
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<td>Alexander von Humboldt Grant</td>
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<tr>
<td>Robyn Hetem</td>
<td>Carnegie Large Research Grant</td>
</tr>
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<td></td>
<td>NRF Thuthuka: Post PhD track</td>
</tr>
<tr>
<td>Peter Kamerman</td>
<td>IASP developed-developing countries research grant</td>
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<tr>
<td>Helen Laburn</td>
<td>MRC Individual Grant</td>
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<tr>
<td>Leith Meyer</td>
<td>NRF Thuthuka: Post PhD track</td>
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<tr>
<td>Duncan Mitchell</td>
<td>NRF Competitive Programme for Rated Researchers</td>
</tr>
<tr>
<td></td>
<td>NRF Incentive Funding Programme</td>
</tr>
<tr>
<td>Maartin Strauss</td>
<td>NRF Thuthuka: PhD track</td>
</tr>
</tbody>
</table>

**Significant local collaborations**

<table>
<thead>
<tr>
<th>Collaborator</th>
<th>Institution</th>
<th>Collaborative project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr P Adrian</td>
<td>Respiratory and Meningeal Pathogens Research Unit (RMPRU) based at Chris Hani Baragwanath Hospital</td>
<td><em>Streptococcus pneumonia</em> infections and cognitive development</td>
</tr>
<tr>
<td>Prof S Mahdi</td>
<td>Centre for Health Systems Research and Development, University of the Free State</td>
<td>Sleep and HIV</td>
</tr>
<tr>
<td>Dr K de Wet</td>
<td>Centre for Health Systems Research and Development, University of the Free State</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Institution</th>
<th>Collaborative project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr N Dinat</td>
<td>Reproductive Health and HIV Research Unit, University of the Witwatersrand, Johannesburg, South Africa.</td>
<td>Neuropathy in HIV-positive individuals</td>
</tr>
<tr>
<td>Prof B Erasmus</td>
<td>School of Animal Plant and Environmental Science, University of the Witwatersrand, Johannesburg, South Africa</td>
<td>Ecology of herbivore movements</td>
</tr>
<tr>
<td>Prof N Owen-Smith</td>
<td>School of Animal Plant and Environmental Science, University of the Witwatersrand, Johannesburg, South Africa</td>
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<tr>
<td>Collaborator</td>
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<td>Collaborative project</td>
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</tr>
<tr>
<td>Mr M Bonyongo</td>
<td>Okavango Research Institute, University of Botswana</td>
<td>Ecology of herbivore movements</td>
</tr>
<tr>
<td>Dr R Fynn</td>
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<tr>
<td>Dr G Maude</td>
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<tr>
<td>Prof P Henzi</td>
<td>Behaviour and Evolution Research Group, Psychology</td>
<td>Thermoregulation of free-living</td>
</tr>
</tbody>
</table>

**Dr F Parrini**

**Prof B Harvey**
Division of Pharmacology, School of Pharmacy, North West University, Potchefstroom, South Africa
The effects of simulated recurrent Mycoplasma infections on fever, growth, learning and memory in growing rats.

**Dr M Hofmeyr**
Veterinary Wildlife Services, SANParks
Reducing morbidity and mortality of wildlife during game capture

**Dr P Buss**
Chris Hani Baragwantah Teaching Hospital/ Faculty of Health Sciences, University of the Witwatersrand.
HIV, neuropathic pain and sleep

**A Karstaedt**
Wits Bioinformatics
Genetics of pain sensitivity associated with antiretroviral toxic neuropathy in HIV

**Dr Z Lombard**
Director of Scientific and Regulatory Affairs for South Africa Clinical Trials (Pty) Ltd. Pharmacology, University of the Free State
Cranioelectrical stimulation and restless legs syndrome

**Prof F Muller**
Department of Anaesthesiology, School of Clinical Medicine, University of the Witwatersrand, Johannesburg, South Africa
Anaesthetic management and its impact on post-operative analgesia

**Dr F Paruk**
Department of Haematology and Molecular Medicine, Charlotte Maxeke Johannesburg General Hospital/ National Health Laboratory Services
Circadian and sleep effects on the expression of regulatory, naive and memory CD4 T cells.

**Dr M Suchard**
Department of Zoology, University of Pretoria
Elephant thermal ecology

**Prof R van Aarde**
Department of Paediatrics, University of the Free State
Restless legs syndrome in children with ADHD
<table>
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<tr>
<th>Staff and student participation in congresses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conference/workshop</strong></td>
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<tr>
<td>NeuPSIG Pain School, Bangalore, India</td>
</tr>
</tbody>
</table>
| SAVA Wildlife Group Minicongress, Pretoria | 9-10 Mar 2012 | L Meyer – “The effects of sedatives on pulmonary vascular pressures during etorphine administration” (invited talk)  
– “The effectiveness of using different cooling methods to alleviate captured-induced hyperthermia” (invited talk) |
<table>
<thead>
<tr>
<th>Conference/workshop</th>
<th>Date</th>
<th>Presentation (poster/talk, invited speaker, chair of a session) and title of presentation.</th>
</tr>
</thead>
</table>
| 4th International Meeting on Physiology and Pharmacology of Temperature Regulation, Brazil | 22-25 Mar 2012 | **A Haw** (delegate)  
  
**A Fuller** – “Regulation of body temperature by free-living vervet monkeys (*Chlorocebus aethiops*)” (poster)  
**L Harden** – “Peripherally-released IL-10 and immune-to-brain signaling in mediating fever” (talk)  
**R Hetem** – “Thermoregulation of free-living cheetah, *Acinonyx jubatus*” (poster)  
**H Lease** – “Comparative thermoregulatory physiology and behaviour of blue and black wildebeest” (poster)  
**S Maloney** – “Daily rhythmicity - field studies” (talk)  
**D Mitchell** (student competition chairman)  
**M Strauss** – “Selective brain cooling as a water conservation mechanism in artiodactyls” (talk)  

Royal Society Colloquium: 50th anniversary of the Gobabeb Research and Training Centre, Gobabeb, Namibia | 30 Apr- 1 May 2012 | **R Hetem** - Coping with extremes: adaptive heterothermy and cathemerality in the Arabian oryx (*Oryx leucoryx*) (talk)  
**D Mitchell** – “Climate change physiology; the challenge of the decades” (talk, session chairman, workshop theme coordinator) (talk, session chairman, workshop theme coordinator)  
**M Strauss** – “Arabian oryx reintroduction and its role in regional conservation programs” (talk)  

APSS (Sleep 2012) in Boston, MA, USA | 9-13 Jun 2012 | **K Scheuermaier** (delegate)  

**Conference/workshop** | **Date** | **Presentation (poster/talk, invited speaker, chair of a session) and title of presentation.**  

**S Ferreira** – “Is postoperative hypernociception associated with anxiety-like behaviour in rats?” (talk)  
**L Hendry** – “Association of Unique Polymorphisms in KCNS1 with neuropathic pain sensitivity in African individuals with HIV-
<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Participants</th>
<th>Presentations</th>
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<tbody>
<tr>
<td>15th World Congress of Pain Clinicians, Granada, Spain</td>
<td>27-30 Jun 2012</td>
<td>P Kamerman</td>
<td>“HIV-associated polyneuropathies” (invited workshop presentation)</td>
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<tr>
<td>International Wildlife Management Symposium, Durban Convention Centre, South Africa</td>
<td>9-12 Jul 2012</td>
<td>M Strauss (delegate)</td>
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<tr>
<td>14th World Congress on Pain, Milan, Italy</td>
<td>27-31 Aug 2012</td>
<td>S Chetty (delegate)</td>
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<td>L Hendry – “Association of Unique Polymorphisms in KCNS1 with neuropathic pain sensitivity in African individuals with HIV-associated sensory neuropathy” (poster)</td>
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<td></td>
<td>P Kamerman – “HIV-related pain in developing countries” (invited workshop presentation)</td>
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<td></td>
<td></td>
<td>- “Genetic risk factors for developing painful antiretroviral toxic neuropathy” (invited workshop presentation)</td>
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<td>- “A previously identified polymorphism in TNFA does not associate with presence of symptomatic neuropathy in Black Africans with HIV-associated sensory neuropathy” (poster)</td>
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<td>D Mitchell (workshop chairman)</td>
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<td>P Pillay – “Incidence and treatment of painful HIV-associated sensory neuropathy in a South African cohort” (poster)</td>
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<td>A Wadley – “UCP3 but not UCP2 associated with pain intensity in HIV-associated sensory neuropathy in black Africans” (poster)</td>
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<tr>
<td>Conference/workshop</td>
<td>Date</td>
<td>Presentation (poster/talk, invited speaker, chair of a session) and title of presentation.</td>
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<tr>
<td>Royal Society of South Africa Spring Science Showcase, Delta Park, Johannesburg</td>
<td>9 Sep 2012</td>
<td>A Botha – “Validation of a novel bio logging method to remotely detect orientation to solar radiation” (poster)³</td>
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<td></td>
<td></td>
<td>H Lease – “Comparative thermoregulatory physiology and behaviour of blue and black wildebeest” (poster)³</td>
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<td></td>
<td></td>
<td>I Murray – “Tissue-carbon dynamics in box turtles and desert tortoises” (poster)</td>
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<td></td>
<td></td>
<td>P Pillay – “Incidence and treatment of painful HIV-associated sensory neuropathy in a South African cohort† (poster)</td>
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<td></td>
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<td>H Lease – “Activity patterns and thermoregulation in free-ranging and co-occurring blue and black wildebeest in Mokala National Park” (talk)</td>
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<td>A Lubbe – “Body temperature as an indicator of environmental stress for vervet monkeys” (talk)⁴</td>
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<td>I Murray (delegate)</td>
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<td>M Strauss – “Counter-current cooling in artiodactyls: The benefits of maintaining a cool head” (talk)</td>
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<tr>
<td>Faculty Research Day</td>
<td>19 Sep 2012</td>
<td>A Botha – “Validation of a novel bio logging method to remotely detect orientation to solar radiation” (poster)</td>
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<tr>
<td>11th World Congress of Veterinary Anaesthesiology, Cape Town International Convention Centre, South Africa</td>
<td>22-27 Sep 2012</td>
<td>P Buss – “The use of butorphanol in mega-herbivores” (talk)</td>
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<td></td>
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<td>M Costello (delegate)</td>
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<td></td>
<td></td>
<td>A Haw (delegate)</td>
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<td>L Meyer – “There is more to opioid-induced respiratory depression than what meets the eye” (invited talk)</td>
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<td></td>
<td></td>
<td>† “Use of serotonergics to reverse opioid-induced respiratory depression” (invited talk)</td>
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<tr>
<td>Conference/workshop</td>
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<td>Presentation (poster/talk, invited speaker, chair of a session) and title of presentation.</td>
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<tr>
<td>4th Annual Clinical Neurophysiology Society of South Africa conference</td>
<td>5-7 Oct 2012</td>
<td>D Schultz</td>
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</tr>
<tr>
<td>4th cross faculty graduate symposium, wits</td>
<td>19 &amp; 22 Oct 2012</td>
<td>A Botha – “Validation of a novel bio logging method to remotely detect orientation to solar radiation” (poster)</td>
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<tr>
<td>3rd Diamond Route conference, Johannesburg, South Africa</td>
<td>30-31 Oct 2012</td>
<td>A Fuller – “Biologging, homeothermy and climate change” (talk)</td>
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<td></td>
<td></td>
<td>R Hetem (delegate)</td>
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<td></td>
<td>H Lease – “Comparative thermal behaviour of blue and black wildebeest” (poster)</td>
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<tr>
<td></td>
<td></td>
<td>D Mitchell – “Body temperature and activity patterns of free-living aardvark facing climate change” (talk)</td>
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<td>M Strauss – “Conserving body water: the challenge faced by arid-zone ungulates” (talk)</td>
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<tr>
<td>South African Society for Sleep Medicine in Durban, South Africa</td>
<td>8-11 Nov 2012</td>
<td>D Benjamin – “Pain perception is altered by sleep inertia” (talk)</td>
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<tr>
<td></td>
<td></td>
<td>A Bentley – “Sleep &amp; Sleep Disorders in a General South African Population” (talk)</td>
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<tr>
<td></td>
<td></td>
<td>K Scheuermaier – “Circadian Rhythms and Sleep” (talk)</td>
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</tr>
<tr>
<td>Conference of the Federation of African Immunological Societies (FAIS)</td>
<td>2-5 Dec 2012</td>
<td>K Redman – “Increased CD4 cell counts and pain predict sleep disruption in HIV-infected patients on HAART” (poster)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>V Duxbury – “Circadian and sleep effects on naïve, memory and regulatory CD4+ T cells” (poster)</td>
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</tbody>
</table>
### Hosting of a Congress/Research Day/Research Workshop

- Peter Kamerman chaired the Scientific Programme Committee of the 4th Congress of PainSA, Pretoria, 2012 and is part of the Scientific Programme Committee of the 4th International Congress on Neuropathic Pain, Toronto, 2013.
- Peter Buss was a member of the Organizing and Scientific Committee for the International Wildlife Tuberculosis Conference, Skukuza, Kruger National Park, September 2012.
- Robyn Hetem was awarded a SPARC grant to host a writing retreat to promote the writing of scientific manuscripts for publication which was held in October 2012.

### Postdoctoral Fellows

<table>
<thead>
<tr>
<th>Member</th>
<th>Previous institution</th>
<th>Funding</th>
</tr>
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<tbody>
<tr>
<td>Dr H Lease</td>
<td>University of New Mexico</td>
<td>Claude Leon</td>
</tr>
<tr>
<td>Dr R McFarland</td>
<td>University of Lincoln</td>
<td>URC</td>
</tr>
<tr>
<td>Dr I Murray</td>
<td>University of New Mexico</td>
<td>School of Physiology</td>
</tr>
<tr>
<td>Dr B Rey</td>
<td>University of Lyon</td>
<td>Claude Leon</td>
</tr>
</tbody>
</table>

1. Notes: 'Joined the BFRG in July 2012

### Significant Publications


New research initiatives

The Sleep Lab has started a new research initiative investigating the sleep and circadian regulation of CD4 T cells and its relationship with core body temperature, melatonin, cortisol and cytokine secretion in the constant routine protocol. In addition, projects were initiated to investigate the impact of HIV infection, HIV treatment, and HIV-related pain on sleep and circadian rhythms. Karine Scheuermaier spoke about sleep on the Chai FM Afternoon Drive Show with D Batzofin and on YoTv on SABC1 on a show called the Blue Couch hosted by Lerato Mohlabane. Alison Bentley spoke about sleep and mental illness to counselors of the South African Depression and Anxiety Support Group and gave a television interview for 3talk on general sleep issues. Alison also gave a Media24 talk on Babies and Sleep to parents and spoke on ‘Sleep and sleep problems in babies’ for the Family and Child Centre in Runanb, Johannesburg. Alison gave an interview on sleep for the Clicks internal radio channel and was featured on SABC2’s On the Blue Couch talking about dreams. Additionally, Alison gave Sanofi-sponsored Sleep and pain talks to doctors in Cape Town and Windhoek and she spoke to regional physiotherapy bodies on ‘Sleep and Pain’ in Port Elizabeth, Cape Town and Johannesburg. Samantha Kerr was interviewed following her paper “Descriptors of Restless Legs Syndrome sensations” being published in Sleep Medicine and was featured in the Saturday Star on the 21st April and the Independent on Sunday on 22nd April. Reports of the article were also featured in the Wits Weekly Issue 20, Wits Health Research News May edition and on the home page of the Wits intranet for 2 weeks.

The Pain Lab’s new research initiative is focused on HIV-associated neuropathic pain and new research projects are investigating the genetic risk factors for this type of pain through the use of medium throughput genotyping technology. An article entitled “Pain in ambulatory HIV-positive South Africans” written by Noko Mphalele, Duncan Mitchell and Peter Kamerman and published in the European Journal of Pain was featured on Health e-News in March. Health e-News is one of the most widely used sources of health news by health practitioners and receives about 300 000 website hits a month. Peter Kamerman gave an interview about “Pain - a neglected complication of HIV Living with AIDS” in March on SAfm with Khopotso Bodibe (available at: http://www.health-e.org.za/news/article.php?uid=20033458). Articles by Peter Kamerman were featured in both the June and July edition of the Medical Chronicle which has a circulation of 15,000. The first article was an introduction to the new clinical practice guidelines for Neuropathic Pain which were written by Peter Kamerman and Sean Chetty (pp 34-35). In July Peter wrote about HIV-related pain and its undertreatment (pp. 50).

The Wildlife Conservation Physiology section has a new research initiative aimed at investigating how large mammals can adapt physiologically to climate change. Duncan Mitchell gave a talk on climate change physiology to the Union of Jewish Women in Johannesburg and to the North Rand Seniors Social Club in Johannesburg. Duncan was invited to give a prestigious African Scholar Lecture to the College of Agriculture and Environmental Sciences, UNISA. Duncan’s talk was entitled “Climate change and the fate of long-lived mammals”.

The Fever Lab has initiated a new research initiative investigating fever and sickness behaviours, including potential learning and memory deficits, during Streptococcus pneumoniae infections.
Visitors

<table>
<thead>
<tr>
<th>Visitor</th>
<th>Institution</th>
<th>Purpose &amp; date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Peter Henzi and Prof Louise Barrett</td>
<td>Department of Psychology, University of Lethbridge, Canada</td>
<td>Collaborative research project on the behavioural ecology and physiology of free-living vervet monkeys 29th Dec to 10th Jan 2012 and May 2012</td>
</tr>
<tr>
<td>Prof Colin Shapiro</td>
<td>Director of the Sleep &amp; Alertness Clinic &amp; Sleep Research Laboratory, Toronto Western Hospital, Toronto, Canada</td>
<td>Visit to Sleep Lab and seminar on sleep and pain, 1 Feb 2012</td>
</tr>
<tr>
<td>Prof Ruediger Gerstberger</td>
<td>Institut fur Veterinar-Physiologie, Justus-Liebig-Universitat Giessen, Giessen, Germany</td>
<td>Paul Levy lecture on “Sensory circumventricular organs: window to the brain” 15 Feb 2012</td>
</tr>
<tr>
<td>Prof Patricia Price</td>
<td>University of Western Australia</td>
<td>Collaboration on HIV neuropathy projects 15-18 April 2012</td>
</tr>
<tr>
<td>Dr Ruth Barrientos</td>
<td>Department of Psychology and Centre for Neuroscience at the University of Colorado (USA)</td>
<td>Assisted with setting up a new model for testing learning and memory in rats, 12-20 May 2012</td>
</tr>
<tr>
<td>Dr Mary Seely</td>
<td>Gobabeb Research and Training Centre</td>
<td>Collaborative research project with Gobabeb Research and Training Centre</td>
</tr>
<tr>
<td>Prof Shane Maloney</td>
<td>School of Anatomy, Physiology and Human Biology, University of Western Australia</td>
<td>Collaboration research project on water conservation mechanisms of artiodactyls 1-12 Sep 2012</td>
</tr>
</tbody>
</table>

SCHOOL OF PUBLIC HEALTH

MRC/WITS RURAL PUBLIC HEALTH AND HEALTH TRANSITIONS RESEARCH UNIT (AGINCOURT)

Director: Professor Stephen Tollman

Awards and recognition

- 2012-2015 Steve Tollman chairs the Public Health and Tropical Medicine Interview Committee (PHATIC) of the Wellcome Trust, UK. This is a specialist committee which interviews fellowship candidates.
- 2012- Steve Tollman became the Principal Scientist for INDEPTH Network.
Staff participation in Congresses


Significant International collaborations

In June 2012 the MRC/Wits Rural Public Health and Health Transitions Research Unit celebrated a 10 year partnership with three pre-eminent institutions:

- Brown University from Providence USA,
- University of Colorado at Boulder, Colorado, USA
- The African Population Health Research Centre (APHRC) in Nairobi.

Significant Publications

- Connor M.D. Carotid artery disease in sub-Saharan Africa: a marker of epidemiological and stroke transition. Neuroepidemiology 2012; 38:120-121 DOI:10.1159/000336110
- Schatz E, Gilbert L. 'My heart is very painful': physical, mental and social wellbeing of older women at the times of HIV/AIDS in rural South Africa. Journal of Aging Studies 2012; 26(1):16-25


Bertram M. Reducing sodium content in high salt foods: impact on cardiovascular disease in South Africa. *SAMJ* 2012; 102(9); 743-745


**CENTRE FOR HEALTH POLICY**

**Director: Dr Jane Goudge**

**Substantial research grants**

<table>
<thead>
<tr>
<th>Funder</th>
<th>Title of proposal</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFID - RESYST-Incentive Study</td>
<td>An experimental investigation of the impact of individual payment mechanisms on clinicians’ behaviour</td>
<td>£ 61,167</td>
</tr>
<tr>
<td>Department of Social Development</td>
<td>Decreasing mortality and improving maternal health and wellbeing for 30,000 women in South Africa by providing support during pregnancy</td>
<td>R 495,400</td>
</tr>
<tr>
<td>Netherlands Organisation for Scientific Research / WOTRO Science for Global Development</td>
<td>Mainstreaming a health systems approach to delivery of maternal services: transdisciplinary research in Rwanda and South Africa</td>
<td>€ 785,806</td>
</tr>
<tr>
<td>UK Medical Research Council</td>
<td>Treating hypertension in rural South Africa: A clinic-based lay health worker to strengthen community-based outreach services for integrated chronic care</td>
<td>£ 820,000</td>
</tr>
</tbody>
</table>
Significant local and international research collaborations

- CHP continues to strengthen its local partnerships, particularly at district health level (Sedibeng and Ekurhuleni), while engaging with national and provincial government including the Gauteng Department of Health and the City of Johannesburg. Academic partnerships continue to grow from strength to strength as CHP participates in a number of projects that aim to build research capacity both locally and internationally. These include the Health Economics Unit (UCT), School of Public Health (UWC), the University of the Free State, University of KwaZulu-Natal, and science councils such as the Medical Research Council and the Human Sciences Research Council. Other important collaborators have included invaluable input from non-governmental and professional associations such as the Public Health Association of South Africa (PHASA) and the Democratic Nurses Organisation of South Africa (DENOSA).

- Our international networks and collaborations are maturing, and we currently collaborate with 24 developed (the ‘North’) and developing countries (the ‘South’) countries. We work with eight African countries (Ghana, Kenya, Nigeria, Mozambique, South Africa, Rwanda, Tanzania and Tunisia) on a number of projects. Other international partners include India, Thailand, Viet Nam, Mexico and Costa Rica and Brazil. The developed countries include Australia (Monash University), Belgium, Canada, France, Ireland, Portugal, Scotland, Sweden, Switzerland, the United Kingdom and the United States. Within the UK, collaboration is underway at the Universities of Cambridge, Oxford, Warwick, Leeds, Lancaster, University College of London, London School of Hygiene and Tropical Medicine, Marie Stopes International, and Health Action Partnership International. Our vision is to broaden our horizons even further to include the United States.

Staff and student participation in congresses

- **Dr Jane Goudge** participated in the UNICO Tool development workshop in Accra, Ghana from 13 – 17 February with delegates from INDEPTH network in Vietnam and Ghana. The worship developed a simple tool (a survey questionnaire) to be attached to the surveillance system of Navrongo (Ghana) and Filabavi (Vietnam) to capture information on need, access to health care and utilisation pattern of health care. The tool will also capture information related to the barriers to access of needed health care.

- **Dr Matthew Chersich** attended a country experts training workshop and consortium meeting of the MASCOT project in Costa Rica in March 2012. MASCOT – Multilateral Association for Studying Health inequalities and enhancing North-South and South-South Cooperation – is an international project funded by the European Commission under the Seventh Framework Programme (FP7) for Research and Technological Development, which gathers partners and experts from Africa, Latin America and Europe, to identify and implement strategies for tackling health inequalities preferentially affecting children, adolescents and mothers. The Costa Rican Minister of Health, Dr. Daisy Corrales, met the group and reinforced her support to the project.

- **Dr Matthew Chersich** presented a paper on ‘Making guidelines on prevention and treatment of HIV and other STIs for sex workers in low and middle income countries: example of the process used in WHO’s guide’ at the National Sex Worker Symposium in Johannesburg in August 2012.

- **Dr Duane Blaauw** and **Ms Pascalia Munyewende** presented papers at the Joint conference of the Public health Association of South Africa and the Rural Doctors assoc of South Africa held in Bloemfontein in September.

- **Ms Prudence Ditlopo**, **Dr Duane Blaauw**, **Ms Eunice Mutava**, **Ms Nonhlanhla Nxumalo**, and **Ms Fiona Scorgie** presented papers and/or posters at the Wits Faculty of Health Sciences Research Day and Postgraduate Expo held on 19 September at Wits. **Dr Blaauw** won the best paper in the Education, Policy and Systems stream and received a travel grant of R20 000.

- **Dr Jane Goudge**, **Duane Blaauw**, **Prudence Ditlopo**, **Nonhlanhla Nxumalo** and **Greer van Zyl** attended the annual meeting of the RESYST project in Cape Town form 10 – 14 September, organised
by the London School of Hygiene and Tropical Medicine. This was the first meeting of the research update officers.

- **Ms Fiona Scorgie** was a panel discussant in a colloquium hosted by the African Centre for Migration and Society on “Ill People or Sick Cities? Mobility and Access to Health in South African Cities” in October.

- Three CHP researchers - including two young female scientists who received scholarships - attended the Second Global Symposium on Health Systems Research from 31 October – 3 November 2012 in Beijing, China. The scholarships for Prudence Ditlopo and Nonhlanhla Nxumalo cover full travel, accommodation and meals. They joined senior researcher, Dr Duane Blaauw, and 1750 researchers, policy makers and other key stakeholders at the conference, which focuses on universal health coverage. Dr Blaauw organised a session at this global meeting on ‘Taking the long view in health systems research’ and the importance of longitudinal methods, a relatively under-utilised method in low and middle income countries compared to high income countries. He presented a paper on this, while Ms Ditlopo gave oral and poster presentations, and Ms Nxumalo presented a poster.

**Hosting of a congress, research day, research workshop**

CHP has launched a series of mini-symposia on topical health policy and systems research issues to promote networking and engagement between researchers and policy makers. On 29 March 2012, CHP co-hosted a mini-symposium on **Access, Inclusion and Exclusion: Health Care at a District Level**, with REACH project partners the Health Economics Unit (University of Cape Town); McMaster University (Canada); School of Public Health (University of the Western Cape), RADAR (Wits), Africa Centre for Health and Population Studies (University of KwaZulu-Natal). Nearly 50 delegates from all levels of the Department of Health and local and international academics attended the meeting which aimed to stimulate engagement with district-level health teams to share research findings, discuss and identify research questions, and explore ways for getting more evidence into policy.

Presenters show-cased results of the five-year REACH project which used maternal deliveries, tuberculosis (TB) and antiretroviral (ARV) services at sub-district level to trace health system equity and access. About 4000 adults using these tracer services at two rural sites - Hlabisa (KwaZulu-Natal) and Bushbuckridge (Mpumalanga) - and two urban sites - Mitchell’s Plain (Western Cape) and Soweto Region D of the city of Johannesburg (Gauteng) – were involved in the studies which explored socio-economic, race, gender and citizenship factors.

CHP hosted the **second annual workshop of the Consortium for Health Policy and Systems Analysis in Africa (CHEPSAA)** in Johannesburg in March 2012. The meeting brought together partners from South Africa (CHP – Wits, UCT’s the School of Public Health and Family Medicine, and the School of Public Health at UWC), Tanzania, Ghana, Kenya, Nigeria, UK, Sweden and Switzerland.

In July, CHP hosted an interactive colloquium to share the research findings of the **Research on the State of Nursing (RESON)** Project. This was a four-year project funded by The Atlantic Philanthropies that aimed to develop and strengthen the evidence for improved nursing policy development and practice in South Africa through three main research areas:

i. Policy analysis – scope of practice, qualifications framework, occupational specific dispensation, and the country’s nursing strategy;

ii. Casualisation: Nursing agencies and moonlighting

iii. Nursing management and quality of care
Over 40 stakeholders from the private and public sector, national and provincial health departments, academics and NGOs including DENOSA and the South African National AIDS Council (SANAC) attended the last meeting of the RESON Advisory Committee to hear the findings of these three core research projects, and to propose strategies for getting this research into policy and practice.

In October, CHP hosted a follow-up meeting of the Multilateral Association for Studying Health Inequalities and Enhancing North-South and South-South Cooperation (MASCOT) project in Johannesburg for partners to share preliminary research findings. The meeting included presentations by academic experts from South Africa, Ghana, Mozambique, Tunisia, Guinea Bissau, Malawi, Tanzania, Chile, Mexico, Bolivia, Costa Rica and Brazil, touching on key learnings and issues on maternal and child health.

Significant research appointments

In February, the Department of Science and Technology awarded the Centre for Health Policy a Chair in Health Policy and Systems, hosted by the University of the Witwatersrand and administered by the National Research Foundation (NRF). The South African Research Chairs Initiative (SARChI) programme allocated 60 new chairs following 406 submissions from 22 universities. The DST/NRF Chair to CHP for Health Policy and Systems research is one of three new chairs awarded to Wits.

CHP’s Chair in Health Policy and Systems Research will lead a programme of high quality research to build capacity in the field which is rapidly emerging as one of the most dynamic and complex areas of health research due to its potential to improve health systems performance and population outcomes. The appointment of the chair is due to be announced at the end of November or early in 2013.

“The five-year research portfolio associated with this chair will focus on research to ensure universal access (also referred to as universal coverage) to quality care for all South Africans. This is necessary to strengthen the public health system’s ability to effectively and efficiently use resources, while increasing the production of skilled health workers,” explained Dr Jane Goudge, director of CHP.

Prof. Laetitia Rispel was appointed head of the School of Public Health in the Faculty of Health Sciences.

Significant Publications


- Palmer M, **Chersich M**, Moultrie H, Kuhn L, Fairlie L, Meyers T. Frequency of stavudine substitution due to toxicity in children receiving antiretroviral treatment in Soweto, South Africa. *AIDS* 2012 26:000-000 [19 November; Epub ahead of print]
- Scorgie F, **Chersich MF**, Ntaganira I, Gerbase A, Lule F, Lo YR. Socio-demographic characteristics and behavioral risk factors of female sex workers in sub-saharan Africa: a systematic review. *AIDS and Behavior* 16(4) 920-33

New research initiatives

- **RESYST** (Resilient and Responsive health Systems) is a new six-year programme which harnesses three key themes to research and encourage policy and management changes that enhance the resilience and responsiveness of health systems to promote health and health equity and reduce poverty. Guided by the London School of Hygiene and Tropical Medicine, the consortium partners include CHP, the KEMRI-Wellcome Trust research programme in Kenya; the Health Economics Unit at UCT, and the International Health Policy Programme in Thailand. CHP is focusing on the Health Workforce theme which includes investigating the relative importance of the different factors influencing health professionals’ job location choices (Cohort Study); assessing the impact, quality and cost of health workforce training by private institutions (Private Sector Study); and investigating the impact of different remuneration mechanisms on providers’ decisions and provider-patient relationships (Incentive Study).
- Translating health financing reforms into intended changes ‘on the ground’ requires a well functioning monitoring and evaluation system which provides data that allow policies to be improved over time, and consequently strengthen their potential to achieve universal health coverage. The five-year **Universal Coverage in Tanzania and South Africa (UNITAS)** project aims to support the formulation and implementation of policy. This will be done by tracking policy formulation, both the processes and
actors; monitoring policy implementation as an ‘early warning system’; evaluating impact of interventions; engaging with policy makers and implementers on all levels throughout the project; and synthesising and disseminating results for policy implications. CHP will focus on one of the NHI pilot sites to monitor and evaluate four ‘innovations’: district specialist teams, community health workers, District Management Strengthening, and the contracting of private providers.

- Pregnancy can exacerbate pre-existing vulnerabilities in certain populations by lowering education and employment opportunities, increasing needs and heightening dependency. CHP is contributing research to offer **maternity and early child support grants** as a mechanism for giving children the best possible start in life, for reducing inequities stemming from pregnancy and for alleviating family poverty. This work provides a unique opportunity for interventions over a brief period which could have massive impacts and synergies beyond compare.

- Too many women in low- and middle-income countries (LMICs) still die as a direct result of pregnancy and childbirth, the majority of which are preventable. Most experts believe that strengthening aspects of the health system (as conceptualized in the six WHO building blocks, which include the health workforce; health information systems; leadership and governance; and actual service delivery) is the solution. A four-year project on **Health Systems and Maternal Health (WOTRO)** aims to mainstream a health systems approach to delivery of maternal health services through transdisciplinary research in Rwanda and South Africa.

- South Africa’s rising hypertension prevalence rate affecting between a quarter and half the population is complicated by fewer than half of those affected aware of their hypertensive status, and only a small percentage of these achieving appropriate blood pressure levels. In response to a call for **strategies to improve hypertension control**, CHP is undertaking a study funded by the Medical Research Council (UK) to assess the effectiveness of clinic-based lay health workers in supporting a community health worker outreach team in improving access to care, adherence to treatment and management of hypertensive patients in a typical rural South African setting. This work will concentrate on existing approaches to prevention rather than developing new treatments, and will contribute to a better understanding of key barriers and facilitators at local and national level that affect hypertension control.

**Visitors**

- In March, CHP hosted **Professor Lenore Manderson**, Professor of Medical Anthropology in the School of Psychology and Psychiatry in the Faculty of Medicine, Nursing and Health Sciences at Monash University in Australia, and **Dr Katie Vasey**, a research fellow in Monash’s Faculty of Medicine, Nursing & Health Sciences to work on a funding proposal with AusAID with CHP Director, **Dr Jane Goudge** and PhD candidate **Bronwyn Harris**. Their visit included writing an article with **Dr Matthew Chersich** on effects of human rights violations on health of sex workers in four African countries.

- **Professor Stanley Luchters**, Adjunct Associate Professor, School of Public Health and Preventive Medicine, Monash University, Australia visited the Centre for Health Policy for a week in May. He drafted several grant applications with CHP’s **Dr Matthew Chersich** with whom he finalised five academic publications. Several more articles are in preparation following this exchange. Papers with Professor Luchters form a key component of Dr Chersich’s plans to reach 100 papers by mid 2013; the two co-workers have almost 30 papers together thus far.
SCHOOL OF THERAPEUTIC SCIENCES

DEPARTMENT OF PHYSIOTHERAPY

Awards/Recognition

- Professor Aimee Stewart was appointed as the Scientific Chair of the World Congress of Physiotherapy to be held in Singapore in 2015.

Hosting of a Congress/Research Day/Research Workshop

- The Physiotherapy Department in conjunction with the Occupational Therapy Department and Right To Care successfully hosted an HIV & Rehabilitation Symposium on the 6th & 7th of August 2012. This was the first of its kind in the country and was well attended. It was a resounding success.

DEPARTMENT OF PHARMACOLOGY

Awards/Recognition

- At the recent 46th Annual Congress of the South African Society of Basic and Clinical Pharmacology in association with the Department of Family Medicine (UP) and South African Toxicology Society, the Pharmacology representatives won two awards.
  - Ms A Ahmed (MSc student) won the Best Student Oral Presentation for Clinical Research for her research entitled “Paediatric Poisoning in Lenasia”, which is supervised by Mrs S Moch.
  - While Dr A van Eyk and co-authors, N Dahan-Farkas, J Langlands and S Aboo were awarded the second prize for best poster entitled “The effect of 5 artificial sweeteners on Caco-2, HT-29, K562 and SH-SY5Y cell lines”.
  - Ms A Ahmed and Mrs S Moch were awarded second prize at the 4th Cross Faculty Postgraduate Symposium in the Faculty of Health Sciences poster strand, with their poster entitled “The occurrence and management of poisonings in Lenasia and the Practitioners’ perceptions of the need for a local Poisons Information Centre”.
  - Mrs S Moch was awarded 1st place for Conference Posters at the 5th Annual Congress, South African Association of Health Educationalists (SAAHE), Bloemfontein, June 2012 for a poster entitled “Assessment of Rational Prescribing Skills in the Exit-Level Written Assessment at Wits Medical School”
  - The Life Technologies award for the best elective project in Pharmacology in the 4th year of the degree of Pharmacy went to Mr D. Georgiou for his research project titled “The antimicrobial effects and toxicity profile of four commonly used local anaesthetics”, supervised by Associate Professors R van Zyl and S van Vuuren.
  - The Life Technologies award for the best Pharmacology BSc Honours Prize went to Ms M Verhoeven for her research project entitled: "A Drug Utilization Review in the Johannesburg Area" supervised by Mrs S Moch.
  - The Sigma-Aldrich Pharmacology BHSc Honours prize went to Ms C Edgar for her research project entitled: "Student's perceptions of the pharmacology education environment in the School of Therapeutic Sciences, University of the Witwatersrand” supervised by Mrs S Moch.

Significant Publications

Substantial research grants

- Dr A van Eyk received CANSA grant “A study of the effect that food additives have on the growth, morphology, level of differentiation, apoptosis and damage to DNA of human cancer cell lines”.

Conferences

- 46th Annual Congress of the South African Society of Basic and Clinical Pharmacology in association with the Department of Family Medicine (UP) and South African Toxicology Society. Attended by:
  
  **Staff:** Associate Professor R van Zyl (poster): RL van Zyl, B Cangi. Do aromatic insect repellents possess antimalarial activity?
  - Dr A van Eyk (poster): The effect of 5 artificial sweeteners on Caco-2, HT-29, K562 and SH-SY5Y cell lines.
  - Dr L Harmse (oral): *Plasmodium falciparum* cyclin G associated kinase (PfcGAK) as a potential drug target.

  **Students:** Ms A Ahmed (oral): Paediatric Poisonings in Lenasia
  - Ms T Kobue (oral): Adherence to therapy amongst Rheumatoid Arthritis patients
  - Ms N Jansen van Vuuren (oral): The anti-neoplastic properties of 8-hydroxyquinoline copper chelating agents.
  - Ms S Laher (poster): Drug Utilization Review on Antidepressants

- 5th All Africa Congress of Basic And Clinical Pharmacology in Accra, Ghana, June 2012.
  - Staff: Associate Professor RL van Zyl, B Cangi, D Mabuza, L Conradie, S McAlpine. Do essential oils used as insect repellents possess antimalarial activity? (oral)
  - Students: N Jansen van Vuuren, RL van Zyl. The haemolytic protective properties of 8-hydroxyquinoline copper chelating agents. (poster)

- Wits Postgraduate Cross-Faculty Symposium
  - Ms A Ahmed, Mrs S Moch. Paediatric Poisonings in Lenasia (poster)
  - Ms S Laher (poster): Drug Utilization Review on Antidepressants
  - Ms T Kobue (oral): Adherence to therapy amongst Rheumatoid Arthritis patients

- Mrs S Moch: 5th Annual Congress, South African Association of Health Educationalists (SAAHE), Bloemfontein, June 2012. “Assessment of Rational Prescribing Skills in the Exit-Level Written Assessment at Wits Medical School”

- Ms T Kobue: Gave an invited presentation entitled “Adherence to therapy amongst Rheumatoid Arthritis patients” at the South African Nurses in Rheumatology Symposium in Cape Town on November 2012


- WITS Faculty of Health Sciences Research Day was attended by:
  
  **Staff (poster):** Dr A van Eyk: The effect of 5 artificial sweeteners on Caco-2, HT-29, K562 and SH-SY5Y cell lines.

  **Students:** Mr G Mothibi, Dr N Butkow: Beyond Patent Expiry: Development of a Model for Pricing Generic Drugs in South Africa (oral)
- Ms A Ahmed, Mrs S Moch: Paediatric Poisonings in Lenasia (poster)
- Ms T Kobue, Mrs S Moch: Adherence to therapy amongst Rheumatoid Arthritis patients. (poster)
- Ms S Laher, Mrs S Moch: Drug Utilization Review on Antidepressants (poster)

Attended by: Mrs S Moch, Ms N Dahan-Farkas, Dr P Govin-Shiba, Dr N Butkow, Dr L Harmse, Dr C Martins-Furness, Mr CT Chen, Ms N Jansen van Vuuren, Mr TH Motau.

- SPARC SThS Writing Retreat to complete a publication was successful for Associate Professor R van Zyl, who has submitted two publications from this week away.
- SPARC Publication writing workshop: attended by most Pharmacology Division staff and students held in October on the Education Campus: Associate Professor R van Zyl, Mrs S Moch, Ms N Dahan-Farkas, Dr N Butkow, Dr L Harmse, Dr C Martins-Furness, Mr CT Chen, Ms N Jansen van Vuuren, Mr TH Motau, Ms Z Hubsch, Ms U Mabona.

Significant local and international collaborations
- A new collaboration with Dr JB Baruah at the Indian Institute of Technology Guwahati investigating novel antimalarial agents.
- 2012 brought about an increased number of projects in cancer and novel clinical pharmacology projects. This reaffirmed collaborative efforts between Dr L Harmse and Ms N Dahan-Farkas with Professor C. DeKoning (WITS Chemistry Dept)
- New collaboration with Professor J. Snyman in a project looking at prescribing error in the JHB hospital.
- New Collaboration with Dr J. Watermeyer and Professor M. Tikly (Dept of Speech Pathology and Audiology) in a project evaluating adherence in patients with rheumatoid arthritis.

Visitors
- Associate Professor F. Mulaa (University of Nairobi) to discuss further collaborative projects and student exchange in the field of malaria.
- Professor P. Agre from John Hopkins University visited the Pharmacology division to discuss malaria projects and possible collaborations with various members of staff.
- Professor D. Haas visited the Pharmacology division to discuss various clinical and basic pharmacology projects and possible collaborations with all members of staff.
- Dr D. Diop, University of Dakar (UCAD - University Cheikh Anta Diop, Medical School) met with Associate Professor R van Zyl to discuss research being undertaken in both departments and universities to consider future collaboration

WITS ADVANCED DRUG DELIVERY PLATFORM (WADDP)

Director: Professor Viness Pillay

Awards/Recognition

- **Young Investigator Award** for a paper entitled ‘Poly(PEGDMA-MAA) Copolymeric Micro and Nanoparticles for Oral Insulin Delivery: A Molecular Mechanistic Revisit’ awarded to Postdoctoral Fellow (Dr. Lomas Tomar) at the International Joint Conference on Pharmaceutical Pharmacology Technology - IJCPPT 2012 - organized by IRNet Group, India at New Delhi, Sep 6-7, 2012.
- 33rd Annual *Conference* of the *Academy* of Pharmaceutical Sciences of *South Africa* Award for Best Research Publication in Pharmaceutics – “Polymeric emulsion and crosslink-mediated synthesis of super-stable nanoparticles as sustained-release anti-tuberculosis drug carriers, Yahya E. Choonara,

- University of the Witwatersrand, Faculty of Health Sciences Research Awards Dinner 2012, Recognition of outstanding research achievement and contributions by Professor Viness Pillay and Associate Prof. Yahya E. Choonara, July 2012.
- Prof. Yahya E. Choonara selected as a TWAS Young Affiliate for Sub-Saharan Africa, Italy, 2013-2016.
- Winner for the 2011/12 National Science and Technology Forum (NSTF)-BHP Billiton TW Kambule Award to an Emerging Researcher (Prof. Yahya E. Choonara) for an outstanding contribution to SETI through Research and its Outputs, 2012.
- Target Selection team has identified your recent publication Qualitative and quantitative intravaginal targeting: Key to anti-HIV-1 microbicide delivery from test tube to In Vivo success, Publication selected as being of special interest to the drug development sector and listed on the Global Medical Discovery Series, 2012.
- Winner of the World Congress for NeuroRehabilitation (WCNR) Executive Committee Student Scholarship 2012 for a paper entitled ‘Polyphenol-flavonol synergistic paradigm for neural repair: Combinatorial computational modeling approach for post-traumatic μ-calpain inactivation’, PhD student (Mr. Pradeep Kumar), at the 7th WCNR Congress: Innovations in NeuroRehabilitation, Melbourne Convention and Exhibition Centre, Melbourne, Victoria, Australia, 16 – 19 May 2012.
- Winner of the Elsevier’s International Society for Developmental Neuroscience (ISDN) Student Scholarship 2012 for a paper entitled ‘In silico theoretical molecular modeling for Alzheimer’s disease: The nicotine-curcumin paradigm in neuroprotection and neurotherapy, PhD student (Mr. Pradeep Kumar), at the 19th Biennial Meeting of the ISDN2012: Neurodevelopment and Neurological diseases, Tata Institute of Fundamental Research, Mumbai, Maharashtra, India, 11-14 January, 2012.
- Winner of the Association for Research in Vision and Ophthalmology (ARVO) International Travel Grant 2012, for a paper entitled ‘In Vivo Verification of the Bioresponsive Potential of an Intelligent Intraocular Implant, PhD student (Ms. Lisa C. Du Toit), ARVO Annual Meeting 2012, Fort Lauderdale Florida, USA, 6-10 May 2012.
- Novartis Next Generation Scientist Program 2012 Award Masters student (Mr. Angus Hibbins) designed to accelerate the scientific and leadership capabilities of talented students.
- Gauteng Department of Agriculture and Rural Development Biotech Fundi Award 2012 for Best Student Research Masters student (Mr. Tong Sheng-Tsai).
- Mentee competitively awarded to attend the "Entrepreneurship for Physicists and Engineers from Developing Countries" Workshop (Prof. Yahya E. Choonara) Trieste, Italy hosted by the International Centre for Theoretical Physics (ICTP), the American Physical Society (APS), the Institute of Physics (IOP) and Academy of Sciences for the Developing World (TWAS), April 2012.

Substantial research grants

- NRF-ASACEN Grant Supporting Joint Research Co-operation between South Africa and Argentina. Collaborating with Professor Ismael Bianco, Biotechnology Unit, CEPROCOR-CONICET, Ministry of Science and Technology of Cordoba, Santa Maria de Punilla (CP 5164), Argentina, Principle grant holder, R450,000, 2012-2014.
- URC Research Mapor Equipment Award for a Miniflex-600 X-Ray Diffractometer, University of the Witwatersrand, R759, 522.72, 2012.
- Faculty of Health Sciences, Minor Capex Research for a Multi-7 Meter, R40, 000.00, 2012.
- International Grant Funding, Dutch Ministry of Economic Affairs in Consortium with MyLife Technologies (Pty) Ltd. and University of Twente, The Netherlands, Technology Development Grant for Design and Development of a Microskin Device for Pain Treatment, €500,000.00, 2012.

NRF Research Grant under the Blue Skies Program, Nanomicelles for Cancer Therapy, R535,000, 2012-2014.

NRF Thutuka Grant entitled a Neurodurable Scaffold Device R203,000, 2012.

Amka Products (Pty) Ltd., Student Capacity Development and Training grant, R40,000, 2012.

NRF Incentive Funding for Rated Researchers, R80,000.00, 2012-2017.

NRF Research Chair: Pharmaceutical Biomaterials and Polymer-Engineered Drug Delivery Technologies, University of the Witwatersrand, R2.5,000,000 p.a., 2012-2017 (a 3-cycle renewable grant).

### Significant international collaboration

New research collaborations were established with the Biotechnology Unit, CEPROCOR-CONICET, Ministry of Science and Technology of Cordoba, Santa Maria de Punilla, Argentina. This collaboration has been through NRF-ASACEN Grant Supporting Joint Research Co-operation between South Africa and Argentina. A joint project has been conceptualized with the goal to improve the absorption and delivery of poorly water soluble drug molecules utilizing ‘smart’ polymer systems and ethosome technology. Recent advances in polymer-drug conjugation made by Prof. Ismael Bianco and his team at the CEPROCOR-CONICET Biotechnology Unit allowed for the production of polymer complexes that specifically address the issues of poor drug permeability and absorption. In this project, patented technology from the WADDP will be utilized to develop a drug delivery system that combines ethosomes and polymer conjugation to design vesicles that can facilitate drug absorption through the gastrointestinal tract. Through our collaboration this combined innovative solution will result in the development of a novel, intelligent system for smart drug delivery. In addition, the WADDP has setup various collaborations with pharmaceutical companies locally and internationally to commercialize key drug delivery technologies.

### Staff and student participation in congresses

Staff and postgraduate students of the WADDP are continuously encouraged to attend local and international conferences. This allows the emergent and established researchers to network and trouble shoot on the progress of various projects under development. It also facilitates the importance of providing early exposure to new postgraduates. Conference attendance also broadens their horizons in terms of witnessing first-hand the relevancy of their work and how it would eventually impact the population at large by providing more effective and affordable pharmaceutical products through their networks established at conferences they attend. Below is a list of 15 papers presented at various conferences in 2012.


- Novel Approaches to Personality Disorder Treatment: Design of Dual-Acting Nanoparticles for the Enhanced Neurotherapy of Borderline Personality Disorder Thiresen Govender, Nabeela Bhabha, Viness Pillay, Girish Modi, Dinesh Naidoo, Yahya E. Choonara and Lisa C. du Toit Presented at the British and Irish Group for the Study of Personality Disorders (BIGSPD) Conference, Manchester, United Kingdom, March 2012. (POSTER)


- Image processing and analysis to investigate the morphological design parameters for the fabrication of nanofibrous and macroporous polymeric scaffolds, Pradeep Kumar, Viness Pillay, Yahya E. Choonara, Lisa C. du Toit, Girish Modi, Dinesh Naidoo, 36th Annual South African Numerical and Applied Mathematics Conference, Professional Development Hub, University of the Witwatersrand, Johannesburg, Gauteng, South Africa, 02-04 April, 2012.

Engineering multifunctional nanoconstructs for spinal cord injury intervention: Nanomicelles-enclatherated nanofibriller implants mimicking the nanophysicomechanical properties of spinal cord, Pradeep Kumar, Dinesh Naidoo, Girish Modi, Yahya E. Choonara, Viness Pillay, 22nd Biennial Congress of the Society of Neurosurgeons of South Africa, Lord Charles Hotel, Western Cape, South Africa, 4-6 October, 2012. [Abstract accepted for oral presentation]


Postdoctoral Fellows

  
  Institution: University of the Witwatersrand, Department of Pharmacy and Pharmacology, South Africa

  
  Institution: University of the Witwatersrand, Department of Pharmacy and Pharmacology, South Africa

Significant Publications

A total of 15 papers have been published during the academic year 2012. All publications have been in top-ranking ISI-accredited international scientific journals of the highest impact factors in the pharmaceutical sciences.


9. POSTGRADUATE OFFICE

The number of postgraduate students who completed qualifications in 2012 in a PhD (D), Masters by dissertation (MR), coursework and research report (MC) and Postgraduate Diploma (X) with comparative for 2010 and 2011 respectively is shown in Table 22 below.

Table 22: Requirements complete for Faculty of Health Sciences displayed by School 2010 – 2012

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Program Type</th>
<th>Schools</th>
<th>Anatomical Sciences</th>
<th>Clinical Medicine</th>
<th>Oral Health Sciences</th>
<th>Pathology</th>
<th>Physiology</th>
<th>Public Health</th>
<th>Therapeutic Sciences</th>
<th>Total per Program Type for FAHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>D</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>5</td>
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<td>19</td>
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<tr>
<td>2010</td>
<td>MC</td>
<td>51</td>
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<tr>
<td>2010</td>
<td>MR</td>
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<td>12</td>
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<td>6</td>
<td>25</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>X</td>
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Table 23 below is an illustration of the enrolment numbers for the Faculty. An increase in student registrations is apparent from 2010 to 2012.

**Table 23: Enrollments stats displayed by School for Faculty of Health Sciences 2010 – 2012**

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Program Type</th>
<th>Schools</th>
<th>Total per School</th>
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<td>Oral Health Sciences</td>
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<tr>
<td><strong>Total per School</strong></td>
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<td><strong>914</strong></td>
<td><strong>60</strong></td>
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<tr>
<td>2011 MC</td>
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<td>75</td>
<td>91</td>
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<td>2011 X</td>
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<tr>
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<td><strong>32</strong></td>
<td><strong>1151</strong></td>
<td><strong>89</strong></td>
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</tbody>
</table>
A pleasing and noticeable increase in the number of M.Meds graduating between 2009 and 2012 is shown in figure 12. M.Dent graduations remain fairly low.

**Figure 12: MMed/MDent graduations between 2004 - 2012**

9.1. STAFFING MATTERS IN THE POSTGRADUATE OFFICE

At the inception of the Student Enrolment Centre in 2009, the Faculty of Health Sciences had requested permission to act as a satellite office of the Student Enrolment Centre so that applications submitted at the Medical School could be processed there, rather than being forwarded to the Student Enrolment Centre. Though the Faculty managed the admissions process successfully then, the same cannot be said now.

The Faculty was without a Faculty Officer for four months (April to July 2012). During this period, for operational reasons, the responsibility of the Faculty Officer Admissions was given to the Faculty Officer (Protocol & Research), the responsibility for Protocol & Research was given to a casual worker.

The position of the Faculty officer Admissions was filled in August 2012. At the same time the Postgraduate Office lost the services of the casual worker as her contract came to an end. The Faculty Officer Admissions was faced with the challenge of ensuring that all application forms were captured and processed in time for the Schools to make selections. There has not been much support/commitment with regard to capturing of application forms as some staff feel it is not their responsibility. Whenever they assist, it is with the attitude of assisting when possible as data capturing is not their responsibility. Therefore it is quite clear that there are no data capturers in the PG Office. In order to meet the deadlines, the Faculty Officer has been working tirelessly and leaving the office way after the normal knock off time. She has been coming to work every single weekend since she started working in the Faculty. Basically, the Faculty Officer had to single handedly do the job which was previously done by four people as reported in the previous annual report. This situation has put extreme pressure on the staff member and the Head of PG in that, one has to ensure that the needs of all the clients are met, and it is extremely difficult to make all clients happy with virtually limited resources.

In addition to having challenges relating to the admissions process, the Postgraduate Office has been faced with serious human resources issues in that the Unit lost the service of one Senior Faculty Officer from August (three months to be specific). The post can only be filled in 2013.

Currently the situation in PG is quite challenging where one has to stretch the limited resources in order to accomplish the objectives of the Unit. The entire staff is stretched to the limit and if this situation is not rectified
soon, something is bound to break. The way things are, some of the staff members are clearly heading for breakdown. In order to manage the situation, one had to turn to the assistance of student helpers. The student helpers had been of great help to the Head of PG and the Faculty Officer (Admissions). We managed to accomplish certain tasks which would have been impossible to manage without their assistance.

9.2. RECOMMENDATIONS AND WAY FORWARD

It is a known factor that the number of postgraduate students has increased and it is expected to continue to increase. Therefore, to make sure that the service provided by the Postgraduate Office is excellent and of high quality, the staffing compliment should be commensurate to the increasing numbers. The Unit cannot continue operating with such depleted human resources to the detriment of the clients/customers (this include students and staff). In order to address the challenges the following recommendations are necessary:

- The Faculty should consider taking back to the Student Enrolment Centre the capturing of application forms. The process is working very well for other Faculties, therefore there is no reason to think that it would not work for this Faculty;
- More support in terms of human resources is urgently required for the survival of the Postgraduate Unit and the sanity of the entire staff. This will ensure that the number of complaints brought up by clients/customers diminishes as there would be more resources to deal will the operational requirements of the Unit.

The Faculty cannot continue aiming on increasing the numbers and at the same time neglecting the fact that these numbers have to be adequately serviced. To provide excellent and high quality service, it is imperative that the PG Unit is adequately resourced.

Mrs Mathoto Senamela
Head: Postgraduate Office
Faculty of Health Sciences

A special thank you goes to all the staff of the Faculty who acted as Internal Examiners for research reports, dissertations and theses in 2012. You are the unsung hero’s of the Faculty. Your assistance with the examination process for postgraduate students is greatly appreciated.

Bev Kramer