UNIVERSITY OF CAPE TOWN
FACULTY OF HEALTH SCIENCES
STRATEGIC PLAN FOR RESEARCH
2013 – 2020

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Executive summary

In 2010, our agreed and stated aspiration at the University of Cape Town’s Faculty of Health Sciences was to achieve a position amongst the top fifty health science faculties in the world by 2017. In 2012, five years ahead of target, we became the first tertiary institution from any developing country globally to be placed in the Top 50 of the Times Higher Education World University Rankings for clinical, pre-clinical and health universities. Disregarding subject area, the University of Cape Town (UCT) overall was ranked at 113. These rankings are strongly influenced by research performance. The Faculty of Health Sciences (FHS) at UCT celebrated its centenary year in 2012 with the theme: “Reflecting on the past, Celebrating the present, Building the future”. We thus embark on a new era from 2013 in which our research is anticipated to play a major role. We are optimistic that our research trajectory will experience healthy growth with the definition of a clear Strategic Plan for Research (2013-2020).

Goals

Our main aim is to advance and encourage research excellence within the FHS, within the context of the vision and mission of the Faculty and UCT, and thereby improve and promote our national and international standing as a research-led institution. The ultimate goal is to improve the health of the people of South Africa and beyond. The principles that govern our research are those of Quality, Impact and Inclusiveness. In this Strategic Plan, UCT’s FHS has committed to achieving the following targets by 2020:

- **IMPROVED RANKING**: to improve our international status from the current number 50 to number 40, as ranked by Times Higher Education World University Rankings for clinical, pre-clinical and health universities.
- **PROVISION OF LEADERSHIP**: To provide national, regional and international leadership in our strategic research strengths, for which national and regional access to our specialist resources and facilities should be provided.
- **IMPROVED HUMAN RESOURCES**: To attract and retain people who drive research excellence, including increasing our National Research Foundation rated scientists from 88 to 125, and our A-rated scientists from nine to 12. To develop future health researchers by increasing our annual doctoral student numbers from 297 to 450, postdoctoral scholars from 93 to 150, and early-career fellows from 12 to 50. Lastly, we aim to produce a total of at least one hundred new PhD-trained clinician scientists at UCT by 2020.

Priorities

Priority setting for research is a complex, difficult and often controversial process. There are many areas that could be strengthened to better enable and encourage research, but a need to prioritise given the limited funding available.

Two key priorities for enabling and encouraging research in the short to medium term have been identified:

- **A CARE strategy** for Capacity building (or Attracting capacity from outside UCT), Retention and Enhancement, with particular attention given to soft-funded academic and research staff
- **Infrastructure development**, with top priorities being improved information systems (e.g. for grants and financial management), a dedicated clinical research facility and enhanced efficiency and maintenance of core laboratory facilities and equipment.
Additional priority targets for internal funding include:

- Strategic new initiatives focusing on translational research;
- Activities that promote interactive research by facilitating communication and information sharing between researchers;
- "Hub-and-spoke" approaches that support under-resourced groups and re-invigorate "dormant" groups, while increasing the human resource capacity of well-established research groups; and
- Community engagement activities to identify relevant research questions in communities and promote informed studies designed to benefit the public.

Our priorities for funding research will remain flexible as our environment and needs evolve, and the Faculty will endeavour to follow a fair and transparent process for identifying its priorities. There needs to be alignment between the FHS Research Strategy and the strategies of the Provincial and National Government, as well as those of International Agencies and Funders.

**Strategies**

We aim to achieve the above ambitious research targets in the next seven years via the following six key strategies:

1. Improving research infrastructure;
2. Building health research leadership and capacity for the future;
3. Enabling translation of research into public health impact;
4. Encouraging partnerships;  
   *which will all be supported through*
5. Increasing funding;  
   *and*

The imperatives of optimising our research productivity and ensuring research integrity, alongside the rapidly growing expectations of funding agencies and regulatory authorities, have created the need to expand governance (while minimising bureaucracy) within the FHS. Additional structures under consideration in 2013 include a Senior Council for Optimising the Research Enterprise, a Research Finance Oversight Committee; an Equipment and Core Facilities Steering Committee; a Centres for Clinical Research, Innovation, Translation and Training Steering Committee; a Health Research Fundraising Committee, an Undergraduate Research Committee, a Clinical Trials Support Hub; an Information Systems Advisory Committee; and an Institutional Biosafety Committee.

This Strategic Plan for Research will be followed by a supplementary document (currently being drafted) that defines the detailed objectives, planned activities and expected outputs needed at University, Faculty and Departmental level to effectively implement the Strategic Plan. The Faculty's research will be benchmarked against national and international institutions annually to inform the assessment of the effectiveness of the strategies implemented, and revision of these strategies where needed.
1. Background

2012 is the centenary year of the Faculty of Health Sciences (FHS) at the University of Cape Town (UCT) and the theme of this celebration is: “Reflecting on the past, Celebrating the Present, Building the future.” The Faculty boasts a long and proud tradition of research, built on the shoulders of giants such as Jack Brock, Ralph Kirsch, Jannie Louw, Chris Barnard and numerous others. In fact, the first published research strategy document formulated in the Faculty was authored by Brock in 1931 (Brock JF. *S Afr Med J* 1939).

In 2010, our agreed and stated aspiration at UCT’s FHS was to achieve a position amongst the top fifty health science faculties in the world by 2017. In 2012, five years ahead of target, we became the first tertiary institution from any developing country globally to be placed in the Top 50 of the Times Higher Education World University Rankings for clinical, pre-clinical and health universities. Disregarding subject area, UCT overall was ranked at 113. In order to sustain and improve our international ranking we shall need to consider, *inter alia*, South Africa’s changing position in an increasingly complex and competitive global environment. One key issue we need to make allowance for is the emergence of China, India and Brazil as major new players in the areas of health research in which countries such as South Africa have historically had a comparative advantage. Research at institutions in these three countries enjoys substantial internal governmental support, which gives them a distinct advantage over South African institutions, in an era in which traditional and non-traditional funders alike are increasingly looking to engage in partnerships. While the South African government has supported health science research at UCT, the current level of this funding is grossly insufficient to support the type of research enterprise needed to improve our health nationally and our global standing to the desired level.

It is important that we view the Research Strategy of the Faculty in the context of UCT’s Mission Statement and, in particular, UCT’s aim to continue to be a “research-led institution” (Appendix A). UCT’s Mission Statement and underpinning Foundation Statement speak about our commitment to innovative research and scholarship; to ensuring that research informs all our activities including teaching, learning and service in the community; to protecting “curiosity driven” research; to stimulating international linkages of researchers and research groupings and to promoting student and staff exchanges and collaborative research.

There is a mutually beneficial relationship between research, healthcare service and teaching and training, which underpins our commitment to being research led. Research contributes to clinical service in multiple ways, including the identification of underlying causes of health problems, development of technologies for better diagnosis and treatment, and improvement of health policy-making and cost-effectiveness of care. Clinical service relies on evidence base, on up-to-date knowledge and on legitimacy, which arise from research. Health research is a crucial element in the education and training of health care workers, helping ensure they are familiar with the most recent advances in the field and teaching them to question the most appropriate method of care. It is important for health research to be conducted in South Africa in order to contribute to knowledge about locally prevalent diseases and to take into account local public health needs and integrate with local health systems research. Observations about the nature and progression of disease by those in healthcare service in turn feed back to the ‘laboratory’ to stimulate and improve research investigations.

The Strategy also needs to be viewed in the light of the Faculty’s Mission Statement (Appendix B) and its commitment to respond to African and global health challenges. The mission statement tasks the Faculty with undertaking research relevant to the needs of our country, the African continent and globally. One of the goals is to produce scientists capable of addressing health need. The values of the Faculty include that, in all our research, we shall strive to be...
guided by high ethical and professional standards, informed by evidence, committed to the principles of respect for human rights and human dignity, and led by the values of quality care, health equity and social justice. Transformation of the Faculty in terms of who we are, what we do and how we operate is also crucially important. We need to focus chiefly on what is central to the needs of our nation and our continent. We need to strive to create and sustain an enabling, robust and flourishing environment in which world class health science research can thrive, whether we are talking about the physical environment or the intellectual space. In this document we would like to explore in more detail what is already in place, what is lacking in the current environment, and how we benchmark whether we are world class. Above all, we need to create a “space” which will be conducive to research: people must be happy and motivated to work and conduct their research at UCT’s FHS.

1.1 The need

We are committed to actively “building the future”, and this can best be achieved by defining a clear and considered plan for the Faculty’s future research enterprise. The FHS is a large and complex faculty, and, despite some individual departments already having strong research profiles, optimal growth and efficiency overall will be realised more successfully if the way forward is mapped in a coordinated fashion.

An exemplar case is the major issue of resource allocation, and specifically optimal utilisation of scarce resources. We need to continue moving beyond “silo” research, in which groups work in isolation and there is little or no sharing of resources, ideas and expertise, to instead encourage collaboration, both internally (in particular across divisions and departments) and externally – with other faculties within the University and with other organisations locally and internationally. For collaborative ventures and for appropriate commitment of core resources, all stakeholders’ needs should be taken into account during planning. The Faculty’s Institute of Infectious Disease and Molecular Medicine (IIDMM) has encouraged collaborative research within an environment of shared facilities and expertise. An analysis of co-authorship of journal articles from 2004-2012 involving two or more members of the IIDMM has demonstrated a growing trend towards collaborative and cooperative research, and away from “silo” research, in the Institute. This trend validates the shared space/ideas/resource model of research entities such as the IIDMM.

The FHS operates in a complex environment, particularly with regard to the relationship between UCT and the Provincial and National Department of Health (DoH). The Faculty’s strategic approach needs to be adapted to take into account changing external influences. The administration of joint staff (many of whom are involved in research), for example, is receiving increased emphasis. New developments within the Health Professions Council of South Africa and the South African College of Medicine with regard to requirements for specialist registration are also impacting the Faculty. All registrars now have to complete a research project before they can be registered as specialists in their respective fields, and this will affect Faculty resources with respect to supervision and research facilities.

There is also the ever-present need for us to ensure that acceptable standards, including ethical and regulatory standards, are met in all research conducted in the Faculty. The proposed establishment of a dedicated hub to provide such cross-faculty support will benefit from strategic direction.

Lastly, there is a need for better priority-setting with regard to the support given to research within the Faculty – a need for us to adopt a process that is fair, transparent and aligned with the needs of the population we serve. Ideally, research (especially major programmes with Faculty oversight) will dovetail with UCT’s ‘Afropolitan’ emphasis. We also need to address the
influence of the external donor environment in determining our research agenda. At the international level, there is pressure from the World Health Organization (WHO), The Bill and Melinda Gates Foundation (BMGF), and other major role-players to focus more on translating findings into policy and practice, and to improve research management and coordination. Whilst such players cannot dictate UCT’s research agenda, we accept that they are nevertheless influential in determining it, and we must consider how best to harmonise their agendas with the Faculty’s vision.

1.2 The process leading to strategy formulation

The reader is referred to three documents which preceded this Strategic Plan. They are available from the Faculty Research Office:

1. **Research Strategy 2007-2012** – compiled by Professor Kit Vaughan, then Deputy Dean for Research. This was a situational analysis of research within the FHS. It did not focus much on future plans or speak to them and it lacked a road map for research.

2. In 2009 Professor Gregory Hussey, then Deputy Dean for Research, updated the above document. This contribution was largely a benchmarking exercise which described where we were at that moment in time, and included ten strategic research activities that the Faculty should focus on.

3. In 2010, under Professor Hussey’s leadership, an **External Review** of the Faculty’s research enterprise was undertaken, which entailed a consultation with a wide range of stakeholders, both within the Faculty and external to the Faculty, including representatives from the South African Medical Research Council, the Department of Health, and the private sector.

1.3 Current status of UCT FHS research productivity

The reader is referred to Appendix C, which is a situational analysis / benchmarking exercise, based on document number 2 (2009) in Section 1.2 above, and updated by the Faculty Research Administration Manager, Ms Carlette Hlungwani. Such updating is done annually and forms part of the Faculty’s input to the University Research Report publication, to which the reader is also referred. The data indicate that the Faculty’s research outputs have consistently increased over the past five years. We are currently rated as the leading health sciences institution on the African continent and across the developing world, a ranking strongly influenced by our research performance.
2. Expectations and aspirations

2.1 Aim and purpose

Our main aim is to advance and encourage research excellence within the FHS, within the context of the vision and mission of the Faculty and UCT, and thereby improve and promote our national and international standing as a research-led institution. The ultimate goal is to improve the health of the people of South Africa and beyond. The purpose of the Strategic Plan is to provide a roadmap which will give direction and clarity to all those directly or indirectly involved in research in the Faculty. It will provide information regarding how we aim to achieve our goals and how we envisage the way forward. The document also seeks to provide guidance on opportunities for, and threats to, increased research productivity, and how the Faculty can manage the roadmap in relation to these.

2.2 Long-term strategic goals

UCT’s Faculty of Health Sciences has committed to achieving the following targets by 2020:

- **IMPROVED RANKING:** to improve our international status from the current number 50 to number 40, as ranked by Times Higher Education World University Rankings for clinical, pre-clinical and health universities.
- **PROVISION OF LEADERSHIP:** To provide national, regional and international leadership in our strategic research strengths, for which national and regional access to our specialist resources and facilities should be provided.
- **IMPROVED HUMAN RESOURCES:** To attract and retain people who drive research excellence, including increasing our National Research Foundation (NRF) rated scientists from 88 to 125, and our A-rated scientists from nine to 12. To develop future health researchers by increasing our annual doctoral student numbers from 297 to 450, postdoctoral scholars from 93 to 150, and early-career fellows from 12 to 50. Lastly, we aim to produce a total of at least one hundred new PhD-trained clinician scientists at UCT by 2020.

With respect to improved ranking, many criteria are used to calculate these classifications and research-related factors are major drivers. For example, Times Higher Education uses 13 performance indicators, grouped into five areas: Teaching – the learning environment (worth 30% of overall ranking score), Research – volume, income and reputation (30%), Citations – research influence (30%), Industry income – innovation (2.5%), and International outlook – staff, students and research (7.5%). Growth in the quality and quantity of research in the FHS will improve its ranking through an increase in the number of research publications (which will be reflected in the University’s annual publication count), an increase in research citations, an increase in research income (as well as specifically research income from industry), an increase in international collaborative research (publication of research papers with international co-authors), and an increase in the number of PhDs.

While working to improve our international standing as a research-led institution, it is important to keep in mind that not all crucial aspects of a university’s mission are measured by these rankings, especially in the developing world. UCT’s ranking also needs to take into account its performance relative to the comparative level of ‘human development’ of our country. The Human Development Index ranks countries into tiers based on life expectancy, education and income indices. All of the other countries with universities in the Top 50 for the Times Higher Education World University Rankings for clinical, pre-clinical and health universities are ranked in the World’s Top 30 for the Human Development Index, while South Africa is ranked at 121.
2.3 The principles that govern our research

The principles that govern our research are those of **Quality**, **Impact** and **Inclusiveness**. These are aligned closely with those of the WHO: ¹

By "**quality**", we mean conducting research that is high quality, ethical, expertly reviewed, efficient, effective, accessible to all, and carefully monitored and evaluated.

By "**impact**" we mean giving priority to research that has the greatest potential to improve national, regional and global health, along with security and health-related development, to redress health inequities and to help attain Millennium Development Goals.

By "**inclusiveness**" we mean working in partnerships, adopting a multi-sectoral (including multi-disciplinary, inter-disciplinary or trans-disciplinary) approach to research wherever possible, and supporting and promoting the participation of communities and civil society in the research process.

2.4 Priorities for enabling and encouraging research in the Faculty of Health Sciences

Priority setting for research is a complex, difficult and often controversial process. It is a desirable goal for decision makers, however there is no agreed definition or procedure for successful priority setting. The Faculty Research Committee (FRC) is well aware of the many areas that could be strengthened to better enable and encourage research, but also that there is a need to prioritise where and how the limited funding available for this should be spent.

Two **key priorities** for enabling and encouraging research in the short to medium term have been identified:

- **A CARE strategy** for **Capacity building** (or **Attracting capacity from outside UCT**), **Retention** and **Enhancement**, with particular attention given to soft-funded academic and research staff.
- **Infrastructure development**, with top priorities being improved information systems (for grant management, financial management and human resources), a dedicated clinical research facility and enhanced efficiency and maintenance of core laboratory facilities and equipment.

Additional priority targets for internal funding include:

- **Strategic new initiatives** focusing on translational research. This could be encouraged by, for example:
  - giving fewer bigger grants towards translational research, rather than small grants to a large number of researchers working in discrete research themes
  - giving funding to encourage basic scientists to assist clinicians in producing MMed / Mphil research projects
- **Activities** that promote interactive research by facilitating communication and information sharing between researchers. For example:
  - Providing a regularly updated webpage that lists all ongoing and ‘soon to commence’ health sciences research projects, to avoid duplication and to foster collaboration across disciplines within the Faculty (and University)

- Bringing together researchers working on related topics, e.g. major burden diseases, strategic themes and major RFAs, to facilitate internal collaboration

- “Hub-and-spoke” approaches that support under-resourced groups and re-invigorate “dormant” groups, while increasing the human resource capacity of well-established research groups. For example:
  - Seed funding could be provided to research groups proposing new hub-and-spoke partnerships

- Community engagement activities to identify relevant research questions in communities and promote informed studies designed to benefit the public. This could be encouraged by, for example:
  - Encouraging FHS researchers to become involved with the UCT Knowledge Co-op
  - Establishing Community Advisory Boards for major research projects.

Our priorities for funding research will remain flexible as our environment and needs evolve, and the Faculty will endeavour to follow a fair and transparent process for identifying its priorities.

There needs to be alignment between the FHS research strategy and that of the Provincial Government of the Western Cape and national agencies, such as the National Health Research Committee (NHRC) of the DoH, the Department of Science and Technology (DST) and the Medical Research Council (MRC). In addition, the priorities for the FHS should align with – or at least, take cognisance of – key policy mandates of the government. These include the National Strategic Plan for HIV/AIDS, STIs and TB, 2011-2016; the DST’s Ten-Year Innovation Plan; and the DST’s planned Research, Innovation and Development Strategy to Strengthen the Bioeconomy.

Another important factor that will obviously influence health research priorities is the national and global burden of disease. The WHO, the National Institutes of Health (NIH) and the World Bank have funded a study entitled Global Burden of Disease and Risk Factors, edited by Lopez et al. and published in 2006 by Oxford University Press. This is a landmark publication, freely available on the internet (www.dcp2.org/pubs/GBD), which provides a wealth of information that can assist in priority setting. It is evident that low- and middle-income countries bear a disproportionate burden for communicable conditions compared to high-income countries. However, non-communicable conditions (such as mental health disorders, cancers and cardiovascular disease) represent a heavy disease burden, even in advanced developing countries such as South Africa. An updated Global Burden of Disease Study 2010 was published in December 2012 (http://www.thelancet.com/themed/global-burden-of-disease). Inevitably, granting agencies (BMGF, Wellcome Trust, European and Developing Countries Clinical Trials Partnership (EDCTP)) will use these data in determining their own funding priorities. Our strategy in the FHS must therefore recognise these priorities, be aware of changing political dynamics (including the trend towards requiring co-funding and for UCT to assume the role of study sponsor in clinical studies) and tailor our research efforts accordingly. The focus of research within the Faculty over the last two decades has been dictated and driven largely by the HIV and TB syndemic. A number of individuals and research groups have emerged who are doing excellent research in these fields. Examples include the South African AIDS Vaccine Initiative (SAAVI), the South African Tuberculosis Vaccine Initiative (SATVI), the Desmond Tutu HIV Centre (DTHC), the Clinical Infectious Diseases Research Initiative (CIDRI), and, more broadly speaking, the IIDMM. The direction of this thrust is unlikely to change in the near future, so the Faculty will continue to focus on these diseases. However, as we move towards 2020 research into conditions such as cancers, neurological and psychiatric conditions, and other non-communicable diseases, need to become more of a priority. We foresee this happening over the next seven years, in line with national and international trends and initiatives.
3. **The key research strategies**

The six key strategies for the Faculty to consolidate and enhance our research in the next seven years are:

1. Improving research infrastructure;
2. Building health research leadership and capacity for the future;
3. Enabling translation of research into public health impact;
4. Encouraging partnerships;  
   *which will all be supported through*
5. Increasing funding; and

These are depicted in Figure 1. A supplementary document is being drafted defining the detailed objectives, planned activities and expected outputs needed at University, Faculty and Departmental level to effectively implement this Strategic Plan.

**Figure 1: Key research strategies for the next 7 years**
3.1 Improving research infrastructure

The Faculty already has, by national and international standards, good research infrastructure in many areas. It has reasonably adequate physical space allocated for research (e.g. the IIDMM), a good deal of research equipment, some of it extremely valuable and seldom found in developing country institutions, a substantial number of research laboratories, as well as well-established regulatory, financial and human resource management support systems. However, aspects of the Faculty’s infrastructure are stretched at the seams and others (e.g. our IT support systems for grant administration and research output management) are far from optimal. The Faculty’s research infrastructure should be both improved and augmented. It is equally important that we increase support for maintenance of existing infrastructure within our laboratories and research units to ensure both our research integrity and the health and safety of our staff and students. Certain areas of our infrastructure require specific attention; outlined below.

3.1.1 Clinical research facility

A major infrastructural deficit has been the lack of a dedicated clinical research facility. Currently, most clinical research in the Faculty is done piecemeal, within existing available spaces i.e. hospital wards, outpatient departments, theatres, or at field sites. The Faculty is in the process of setting up a group of clinical research units, to provide a platform for clinical research conduct and training. Major components will be located in the Groote Schuur Hospital complex and at the Red Cross War Memorial Children’s Hospital campus, catering for clinical research in adults and children, respectively. In addition, satellite facilities are planned for Khayelitsha District Hospital (peri-urban) and Valkenberg Hospital (psychiatric), as well as at community health centres (rural). The clinical and scientific research programmes that the clinical research units will support will focus on the most significant health problems of South Africa and Africa, including both communicable and non-communicable diseases. They will promote multi-disciplinary clinical research projects, encourage collaborations between basic, public health and clinical scientists, train health professionals in clinical research, and support the growth of a critical mass of expert clinical investigators.

The clinical research units will offer researchers facilities for monitoring of study subjects (inpatient and outpatient), as well as access to core clinical research support staff and equipment (for example, for resuscitation, cardiac monitoring, and pharmacokinetic assays). Core support services will include clinical research project management, biostatistics and epidemiology, data management, and regulatory and ethics support. The primary aim of the biostatistics and epidemiology staff will be to support projects during the planning, monitoring, and analysis phases of a study. Data management staff will provide advice and support on database design, and data security, collection, storage and backup, as well as managing state-of-the-art computing facilities for studies. Ethics and regulatory staff will ensure that all projects are done in accordance with Good Clinical Practice (GCP) and Good Laboratory Practice (GLP) and that all ethical requirements are met.

The clinical research units will also provide structured training to postgraduate students (including the MMed, MPhil, MD and PhD programmes) and emerging clinical principal investigators across all clinical disciplines to improve their research and management skills. It can be very challenging for clinician scientists in the Faculty to undertake excellent clinical research in the face of very large service and teaching loads. The establishment of these units is a step towards providing some of the support needed to enable more high-quality research from this sector. It will also facilitate a more cohesive clinical research agenda within the Faculty.
A steering committee with Faculty-wide representation will drive the development and establishment of this pivotal infrastructure, work to ensure its sustainability, and facilitate equitable access to, and optimal use of, the clinical research unit resources.

### 3.1.2 Core facilities, laboratories and research equipment

We need to ensure that the Faculty continues to offer world class laboratory facilities to our researchers. The availability of certain core facilities (e.g. the Research Animal Facility) is critical to us remaining internationally competitive. Plans for ensuring the future sustainability of these facilities, including how they will be maintained and enhanced, are vital. Existing core facilities need to have business plans and maintenance plans; the Faculty and University need to set criteria for defining core facilities and the University needs to develop an equitable funding model to sustain cross-faculty core facilities.

Equipment used in health research is often extremely expensive, not only to purchase but also to maintain. The FHS and UCT cannot feasibly provide every piece of equipment that research groups need. To date, many of the more expensive pieces of research equipment in the Faculty have been purchased using donor funding. We want to promote the use of shared equipment, where possible. The FHS should make more use of equipment infrastructure schemes funded by the NRF (e.g. the National Equipment Programme (NEP) and the National Nanotechnology Equipment Programme (NNEP)). The FHS should at least co-fund the purchase of large pieces of equipment if their acquisition is deemed appropriate and strategic by the FRC. The FHS can and should, however, increase the amount it spends on purchasing small equipment and co-funding minor equipment repairs (currently less than R100 000 annually).

### 3.1.3 Space and equipment audit

Research space in the Faculty is variably perceived to be under-utilised and, in contrast, urgently needed. Within the FHS ongoing space audit, we therefore need to conduct an inventory of research space and equipment, broken down by individual researcher, research grouping, division and department and relate this to the level of research income generation and research output (e.g. grants managed, journal papers published, higher degrees awarded, undergraduate and postgraduate students trained, etc). The results of such an analysis should be considered in the context of the ‘Faculty Dashboard’ (which encompasses the spectrum of research, teaching and service in the Faculty) to form the basis for decision making with regard to space allocation going forward. In addition, as we move forward with our research agenda, we have to make allowances for expansion and remodelling of the enterprise. The commitments of the Faculty, University and National Government to rapidly increase the numbers of postgraduate students must be matched by a parallel increase in office, seminar and laboratory space, as well as in essential support staff, such as laboratory technicians.

### 3.1.4 Research information systems

The information management systems currently used by the FHS (e.g. for grants and financial management) are inadequate for supporting research at the level and volume conducted. An upgrade of these systems is necessary. Ideally, the Faculty would use one system (or a number of interlinked systems) to deal with a range of research-related activities, such as ethics review, publication monitoring, and grants management. UCT has invested in the modular IRMA.net system to handle multiple activities such as these, with a view to this being rolled out across faculties. Development and customisation is underway. In addition, UCT is developing a Research Portal that will support researchers in a range of ways, and store researcher information in a searchable database. It is being designed to integrate, where possible, with
UCT’s other information systems. The FHS needs to work with the groups implementing these systems at UCT to ensure the type of research that the Faculty conducts, and its associated processes, are supported appropriately by these systems, or alternatively make provision for additional systems to support the needs of our researchers. This should include an upgrade of the FHS approval system for grant applications (C1 form), which is currently paper based, as well as a move to electronic submission of research proposals to departmental research committees, to ethics committees and to the finance office.
3.2 Building health research leadership and capacity

The academic clinical research workforce in South Africa is ageing and has been steadily declining in numbers since the early 1990s. The combined burden of clinical teaching and training, health service provision, and research thus falls on a shrinking and ageing pool of largely male and white academics in health science faculties. This means that there is limited capacity to increase the production of properly trained healthcare workers and to train and inspire a new generation of health researchers. Simultaneously, the situation has brought about an inability to cope with the increasing demands of clinical service imposed by the colliding epidemics of communicable (e.g. TB, HIV/AIDS) and non-communicable diseases (e.g. heart disease, stroke). There is therefore an urgent need to grow numbers of clinical researchers. Similarly, there is a need to increase numbers of basic scientists and public health researchers, allowing capacity to grow across the full spectrum of research, to aid translation into policy and practice.

The Faculty has developed a number of programmes to build, retain and enhance research capacity as outlined below. These are complimented by courses designed to support postgraduates and to develop our future research leaders, including courses in clinical research methods, laboratory research methods, and statistics. In addition, two recently created posts for a biostatistician and an epidemiologist have the primary responsibility of supporting clinical research in the Faculty. They provide faculty-wide support to researchers, and are based in the Department of Public Health and Family Medicine.

Substantial funding is available currently for postgraduate students in health sciences, and growing levels of funding for postdoctoral fellowships, but there is limited funding for early-career fellowships. This imbalance must be addressed for adequate support and supervision of the proposed rapid growth in postgraduate student numbers. We should develop our pool of future health researchers by investing in the full pipeline, increasing our annual doctoral student numbers from 297 to 450, postdoctoral scholars from 93 to 150, and early-career fellows from 12 to 50 (see Figure 2). In addition, we need to strengthen leadership with academic management skills development, so that the rapidly growing Faculty Research Enterprise achieves maximal research productivity under good governance and minimal bureaucracy. Importantly, while working to build and retain our research capacity, careful attention should be paid to the Faculty’s transformation policy.
3.2.1 Soft-funded academic and research staff

Soft-funded academic and research staff (SFARS) are major contributors to the Faculty's postgraduate training and research productivity – and thus Department of Higher Education and Training subsidies and ranking – but are dependent on research grants to cover their cost of employment (CoE). Half of the positions in the FHS are currently soft funded, with a total monthly CoE (in January 2012) of R 21.7 million, which is equivalent to the Faculty's entire monthly general operating budget (GOB). These staff members face a number of challenges, of which lack of salary security and feeling under-valued by UCT for their contributions to training and research are of the greatest concern. The current economic crisis and cost recovery requirements by the National Intellectual Property Management Office (NIPMO) have exacerbated this situation.

The challenges faced by our SFARS need to be addressed to avoid a number of situations potentially detrimental to UCT, including:

- The risk of not being able to retain SFARS – firstly those top SFARS who are highly attractive “head hunting” targets and might be employed by competing research institutions who are willing to offer them tenured positions, and secondly those SFARS who are temporarily unsuccessful in raising their full CoE (in addition to research project costs and cost recovery) and are based in units that are unable to cross-subsidise these salaries during funding droughts;

- SFARS becoming pressurised into prioritising income generation that may not align well with academic priorities (e.g. contract research rather than investigator-initiated research; writing reports for funders rather than peer-reviewed publications; supervising fewer and only senior postgraduate students; not applying for NRF rating).
Increasing reluctance to include maximal cost recovery in SFARS’ research budgets, as this proportional cost is not linked to the benefits they receive (i.e. this is currently the same as for those whose salaries are GOB funded).

Potentially limited succession planning when a principal investigator nearing retirement is only able to raise funds for his own CoE and not for that of his potential successor.

The strategies being developed to address these concerns include:

- Active inclusion of SFARS in internal communication, management & leadership roles
- Development of a specific guidance document for appointing SFARS
- Proposed equal access to URC funding & support, including for T1 and T2 appointments
- A survey of SFARS to quantify their contributions to UCT, in order to inform future planning and budgeting
- Phased implementation of norms for payment for teaching and training
- Creation of competitive two-year salary funding awards (at the level of non-clinical associate professor) for the top SFARS in the Faculty. With support from a Vice-Chancellor’s Strategic Award, the Faculty is offering five of these merit-based awards in 2013.

### 3.2.2 Professional, administrative and support staff

Professional, Administrative and Support (PASS) Staff are a vital, but often under-recognised, component of the Faculty’s Research Enterprise. Not only do they underpin the technical, management, administrative and financial infrastructure that is essential for research integrity and productivity, but the job descriptions of some also require them to conduct original research. Of the Faculty’s 653 staff currently funded through research grants, 523 (80%) are PASS staff. The University would benefit from greater flexibility in its policies and research funding allocation to enable as many staff as possible – including PASS staff – to contribute directly to its research productivity.

### 3.2.3 Undergraduate research

Promoting undergraduate research is very important to us. Current initiatives in the Faculty include: an annual Faculty Undergraduate Research Day, a second year MBChB Student Special Study Module, a fourth year MBChB Public Health and Family Medicine Research Project, and Health and Rehabilitation Research Modules. These offerings could be expanded to include student electives (i.e. the promotion of research elective programmes). The undergraduate curriculum could be reviewed for research training opportunities, and strategies for ensuring that research feeds back into current educational practices should be used to improve teaching, as well as stimulate current undergraduate students to return as postgraduate students.

### 3.2.4 The academic PhD and postdoctoral programme

The FHS traditionally trains two groups of PhD students – the majority come from basic science disciplines and a smaller number from clinical, public health and rehabilitation disciplines. A strategic objective of the South African government is to significantly increase the number of clinician scientists in the country over the next ten years. Our aim is to produce at least one hundred new PhD trained clinician scientists at UCT by 2020 without neglecting our obligations to the basic scientists. Our model for developing the next generation of academics (both basic scientists and clinician scientists) is to ensure that they are adequately exposed to the research environment (at least 70% of their time), that they spend a small proportion of time in teaching and administration and that they are also exposed to elements of social responsiveness within the divisions where they train. The Carnegie Corporation is currently funding 18 PhD and six...
postdoctoral fellows in the Faculty through a grant to UCT for the "Developing the Next Generation of Academics" programme. The Corporation subsequently granted further funds for the support of another 15 PhD and nine postdoctoral fellowships in the Faculty (ranging from one to three years duration), awarded in early 2013. This programme is managed by the IIDMM on behalf of the Faculty. The clinical research units described in 3.1.1 above will provide fellows with structured training courses that aim to improve research and management skills. We are looking at providing additional support via an academic mentoring programme involving recently retired academics and alumni, which is being trialled.

We intend to introduce intercalated MBChB/BSc Honours, MBChB/MPH and MBChB/PhD programmes, as well as PhD programmes for postgraduates in nursing, occupational therapy, speech therapy, physiotherapy or medicine. These programmes will be targeted at the most able, most talented, and most motivated students who are judged as having potential to become leaders in their fields. The programmes will thus focus on the top 5-10% of students in each graduating class. The PhD programme will draw students from not only the UCT FHS, but also from the historically black institutions in South Africa (e.g. the University of Limpopo and Walter Sisulu University), and from other institutions in Africa where we already have established links (e.g. the University of Ibadan in Nigeria, Queen Elizabeth Hospital in Malawi and the Kigali Health Institute in Rwanda).

3.2.5 The MMed and MPhil programmes

The MMed programme deserves special mention here – from January 2011, all registrars are required by the Health Professions Council of South Africa to complete an MMed, including the research project component thereof, in order to be registered as specialists when they complete their registrar time, even if they pass the relevant College Fellowship examinations. While this provides a great opportunity for growing clinical research, these registrars carry a particularly heavy teaching and clinical service load during their training. The Faculty is striving to assist these postgraduate students by providing core support services in epidemiology and statistics, research methods courses, limited funding towards the costs of individual research projects as well as via establishing new clinical research units. Training workshops and support for their supervisors and mentors should be strengthened.

Similarly, MPhil students in the Faculty often have to conduct their research in the face of very heavy clinical service loads. For these postgraduate students (often senior registrars) and the Faculty to reap the full potential benefit of their research, core support should be offered similar to that described above.

3.2.6 The early-career development programme

In 2010, the Faculty launched an early/mid-career fellowship programme with the support of the Hasso Plattner Foundation. The Plattner fellowship programme is managed by the IIDMM on behalf of the Faculty, and 12 awards have been made. Posts are awarded to outstanding emerging basic scientists or clinician scientists, in order to enable them to develop their research, taking this to a higher level. The focus is on infectious diseases and molecular medicine at the basic, clinical and public health levels.

The early-career development initiative aims to produce, at the end of their tenures, researchers who are able to secure major international funding and grant awards from prestigious agencies such as the NIH, the Wellcome Trust, the EDCTP or the BMGF, to enable them to pursue their own research projects and careers into the future. The incumbents will also be expected to develop and sustain national and international research partnerships, collaborations and network ties, attain NRF ratings, be capable of undertaking interactive and multidisciplinary...
research and provide mentorship for other early-career investigators. Ideally, fellows would also be exposed to elements of the existing New Academic Practitioners Programme and Emerging Researcher Programmes (ERP), and then encouraged to participate in UCT’s Programme for Enhancement of Research Capacity. However, a significant challenge currently faced by the early-career fellows is that those who are contract (rather than permanent) staff cannot participate in programmes such as the ERP and are excluded from applying for certain grants. This issue needs to be discussed with the University. The FHS is seeking additional funds from other agencies to enhance and expand this programme.

3.2.7 The Harry Crossley programme

Many clinicians have found it extremely difficult to produce significant research outputs because of the increasing teaching and service requirements of the Provincial Government of the Western Cape Health Department. The purpose of the Harry Crossley Clinical Research Fellowships is therefore to support sabbatical leave for clinicians to dedicate time to clinical research and related academic activities.

3.2.8 Attracting, retaining and rewarding research excellence

The Faculty already has a complement of highly qualified and productive academics. It is the highest ranked health sciences faculty in Africa and across the developing world (Appendix C). It is nevertheless difficult for a Faculty such as ours to attract and retain senior staff when competing with other institutions, particularly those in developed countries, which can offer much higher salaries and better conditions of service. Attracting and retaining more of such individuals could potentially be achieved by improving the research infrastructure, offering more scholarships/fellowships at doctoral and post-doctoral level, ensuring that students and staff have access to facilities that are world class, and minimizing bureaucracy without compromising good governance. We also need to retain up-and-coming early/mid-career scientists, which will be pivotal for meeting the University’s and National Government’s aspiration to dramatically increase the number of doctoral students graduating (they will need supervision) and transform the demographic profile of the academe. For this the creation and funding of more early-career / development posts is pivotal.

There is a need to further incentivise research at all levels in innovative ways, including task shifting / rotations to allow dedicated research time. The research incentive most frequently motivated for by researchers is that a proportion of the government subsidies for each accredited publication and postgraduate student trained be provided as a direct financial reward to the individual researcher (a taxable income) or the research unit. This system is in place at all South African Universities other than UCT and Rhodes University, although the proportion awarded to the researcher varies considerably from 12% to 60%. UCT’s position has been that this subsidy replaced (and is not additional to) prior government funding that is essential for the running of the University, its faculties and departments – and that preferential funding of some academic responsibilities (such as research) and not others (such as teaching, leadership and management as well as social responsiveness) could compromise the integrity of the whole. However, as this is a long-standing bone of contention with researchers (many of whom raise their own salaries), a compromise continues to be sought. The UCT Research Office put a proposal to UCT to distribute a proportion of the research subsidies over and above those earned in the benchmark year of 2009 to individual researchers or research units, although the details of this plan still need to be agreed to by the central finance office. The giving of awards to the top SFARS described in 3.3.1 is another innovative proposal for which UCT funding is being sought. The United Kingdom currently uses a monetary-based merit reward system to retain their top academics; such a model should also be explored by the FHS. Whichever research incentive strategy is implemented, it will be important to ensure that it rewards quality and
public health impact, more than it rewards quantity.

The NRF has a number of schemes accessible to all researchers in South Africa, which incentivise and reward excellent research. These include the rating system and the Competitive Programme for Rated Researchers. The NRF encourages researchers to subject themselves for rating, maintain their ratings, and attain ever higher ratings until they reach the top rating (A1). One of the problems with the current rating system is that it does not work well for researchers who have a significant clinical and teaching load, and it is less able to recognise the contribution of trans- and inter-disciplinary researchers. These issues need to be addressed with the NRF by UCT and the FHS.

3.2.9 Promoting research capacity in key underdeveloped areas

The Faculty already has very strong research programmes in infectious diseases, public health, occupational medicine and several other areas, which are well-developed, well-organised and well-coordinated. There are excellent research groups within the Faculty in disciplines such as cardiology, pharmacology, immunology, genetics, biochemistry and others. Our focus going forward needs to be on developing research around thematic areas such as cancer, non-communicable diseases and the neurosciences, because they represent major burdens of disease in our population. They have been highlighted as major areas for research by bodies such as the World Health Organization and in consequence more funding is being made available. Currently, we have a number of initiatives which have kick-started this process, e.g. the Cancer Research Initiative and the Chronic Diseases Initiative in Africa. Biostatistics, bioinformatics, genomics and structural biology represent key underpinning disciplines which need to be further developed. A potential problem with this approach is that one may end up trying to do everything, and getting nothing done well. Core strengths must be preserved and major investments in new areas must be strategic and built on evidence of at least some comparative advantage at UCT.
3.3 Enabling translation of research into public health impact

To improve the health and well-being of our population, scientific discoveries must be translated into practical applications that can be implemented in an innovative and cost-effective manner that is acceptable to the communities that bear the greatest burden of those diseases. To facilitate this, health research should have a translational component, whenever possible.

By this we mean that it should bridge either basic and clinical science (so called T1 translational research) or clinical and public health research, which includes health and rehabilitation sciences and social sciences research (so called T2 translational research) – see Figure 3. Importantly, there is a third component (T3): translating findings into policy and implementing such policy into practice, for which health policy, health systems and health economics research play a particularly pivotal role. This work lies at the interface of epidemiology, social science, policy and health practice, and necessitates ‘boundary spanning’. Scientists are increasingly aware that this "bench-to-bedside-to-bundu" approach to translational research is really a two-way street. Basic scientists provide health practitioners with new tools for use in managing patients and for assessment of the impact of care, and clinical, public health and rehabilitation researchers make novel observations about the nature and progression of disease, which stimulates basic investigations. For the FHS to live up to its mission, it must encourage this two-way translational research, and bear this in mind when it comes to funding and priority setting.

Figure 3: Translational research
Parts of the FHS are already working to grow translational research. The research units within the IIDMM span the basic, clinical and public health domains, developing a level of integration that sets UCT apart from other African institutions. The planned clinical research unit facilities described in 3.1.1 will also be central to supporting a translational strategy. Their infrastructure will help develop a cadre of well-trained multi-, inter- and trans-disciplinary investigators and research teams. It will provide a platform to catalyse the application of new knowledge and techniques to clinical practice at the front lines of patient care. A translational strategy will hopefully also encourage and enable meaningful collaboration between researchers within the Faculty (and UCT more broadly) and decision makers (e.g. within the DoH or DST and product development partners), who will be able to use the results of the research to address important health system challenges, thus ensuring that populations have access to the best possible health services.
3.4 Encouraging partnerships

The principles underlying a partnership have been described in various ways, but many take inspiration from the principles in the “Guidelines for Research in Partnership with Developing Countries” of the Swiss Commission for Research Partnership with Developing Countries. These principles include ownership, mutual trust and respect, shared responsibility, clearly defined roles, sustainability, capacity development and use of research findings to inform health decision making and health practice. Objectives need to be decided on together by partners. Mutual trust needs to be built between the partners. Information needs to be shared amongst partners, and networks of like-minded individuals and groups developed. Responsibility needs to be shared between partners. Transparency needs to be created, such that all partners have sight of where projects and programmes are heading and the reasons why key decisions are taken. Collaborations need to be properly monitored and evaluated and, where they are not working, remedial steps need to be taken. Results need to be disseminated, including within the communities who provided research participants. Importantly, research results need to be applied, meaning they need to impact decision-making and policy formulation as well as clinical practice. Profits made need to be shared equitably between partners and should preferably be reinvested into increasing research capacity at partner sites. Lastly, achievements should be built upon – partnerships that have been shown to work should be nurtured and further developed.

3.4.1 Promoting collaboration and partnerships

Firstly, this relates to the promotion of internal partnerships within the Faculty and the need for researchers to avoid conducting (and the FHS to avoid supporting) so called "silo research", in which individuals and groups act virtually independently, with little sharing of ideas, resources or funding. Secondly, it relates to promoting internal partnerships within the University, i.e. with researchers located in other faculties. Thirdly, it relates to partnering with groups external to the University, located in other Universities, in Science Councils and in Research Institutes, both nationally and internationally, within Africa and globally.

Particular emphasis needs to be placed on the sentiments contained in the University's Foundation statement, which speaks of UCT as an "Afropolitan university" and outlines the University’s intention to “expand our expertise on Africa and offer it to the world; extend our networks on the continent, along with our global connections and partnerships; promote student and staff exchanges and collaborative research and postgraduate programmes; engage critically with Africa’s intellectuals and world views in teaching and research; contribute to strengthening higher education on our continent.” Our Faculty's Mission Statement also speaks, under "values", of the importance of "collaboration and partnership". Thus, attracting excellent postgraduate students from across Africa and building/enhancing the capacity of Africa’s top emerging researchers, while supporting the conduct of research in African study sites and focusing on Africa's health research priorities, are key components of the Faculty's research strategy.

We want to develop strategic partnerships with other universities and other organisations, both nationally and internationally. Such partnering will almost certainly improve the Faculty's national and international standing and visibility with regard to research excellence.

3.4.2 Encouraging interdisciplinary and transdisciplinary research

We want to promote collaborative research activities that are transdisciplinary, interdisciplinary and cross-disciplinary within the university. The faculty recognises the range of definitions (multi-, inter- and transdisciplinarity) that inform the debate on transdisciplinarity and remains sensitive to perceived or real boundaries between disciplines and the sense of ownership this generates. However, as transdisciplinary modes of research are increasingly in demand to address the complexity of research questions, and as many funding instruments now favour a multi- or transdisciplinary consortium approach, it is important for the FHS to consider how it positions itself in relation to these opportunities.

A University-wide interdisciplinary and transdisciplinary (IDTD) Task Team recently completed a review of IDTD research across the University. One of the preliminary finding was that there are more inhibitors than enablers of IDTD research at UCT. The report being drafted from the review will put forward a series of “Low Road” and “High Road” recommendations. Low Road items are easy to do – they involve optimising what is already underway through coordination and economies (e.g. promoting co-supervision). High Road items are much more ambitious, involving dedicated resourcing and changes in structures or processes that currently stand in the way of IDTD work – they would require leadership at Deanery or Head of Department level in promoting IDTD work. The FHS will examine these recommendations as a guide for ways to enable and strengthen IDTD research amongst our researchers. We will also look at suggestions arising from a workshop held in 2012 specifically on IDTD research within the FHS, including: compiling a list of successful IDTD grant proposals on Vula to identify what IDTD research is underway at UCT, training staff and students in IDTD methodology, training supervisors on how to supervise and examine IDTD theses, incentivising IDTD research through funding or awards, hosting a seminar series on IDTD research, and making IDTD research within the FHS more visible (e.g. on the Faculty website). In due course and at other fora, additional stakeholders will be brought into the discussion on IDTD research to assist the FHS with systemic solutions and support strategies.
3.5 Increasing funding for research

By 2020, we aim to increase research grant funding by at least 50% relative to 2011, after adjustment for inflation. This should include a proportionately similar growth in internal, national and international funding, and should also include increased funding to support the core infrastructure and support staff needed to underpin the anticipated rapid growth in research activity and productivity.

We currently have approximately R 10 million in discretionary funding available annually to support research within the Faculty of Health Sciences. This is provided by, *inter alia*, a University block grant, University Research Committee (URC) allocations, and income from investments and trusts. We need to look towards at least doubling this by 2020, through various mechanisms including securing multi-user infrastructure grants, a greater number of bequests and long-term recurrent donations, and working with existing trusts, e.g. the Cancer Research Trust, to increase their donor base, which in turn should benefit the Faculty. The Faculty does not currently employ any full-time dedicated grant writer or fund-raiser and this is a major deficiency when compared with other similar, or even smaller, institutions. Ideally, we need a “Development Office” to handle fundraising and enable successful grant writing for investments in faculty-wide research. This requires expertise in branding, marketing, and development of a value proposition for the FHS that can be sold to traditional and non-traditional donors. One of the specific recommendations in this Strategic Plan is for the Faculty to meet with counterparts in the University to obtain a more favourable resource allocation of the University’s research funding, including additional administrative and financial support staff to manage the recent and ongoing rapid growth in research grants, postgraduate student numbers and scientific activities. In addition, lobbying of external national and international funders to increase funding for scientific excellence, along with strengthening regional capacity in relevant health research remains a high priority.
3.6 Governance and standards

The need for the Faculty to maintain the highest possible research standards is self-evident. This relates to the need for adherence to the principles of Good Research Practices (such as GCP and GLP) in all research undertaken at UCT, and for ensuring that only high quality research is conducted in the Faculty. It assumes that all human and animal research studies conducted by UCT-affiliated researchers (regardless of the study site) have the prior approval of competent and well supported Research Ethics Committees. It means that research governance and management within the Faculty is established and conducted according to best management practices; that all research is properly monitored, evaluated and reported on; and that our research output and standards are regularly measured against appropriate benchmarks.

3.6.1 Current governance structure

The governance structure in the FHS was reconstituted in 2007 and subsequently revised in 2009. It now consists of a Dean and four Deputy Deans who report to the Dean: (1) Undergraduate Education and Operations (full-time), (2) Health Services (full-time), (3) Research (currently part-time, with potential to become full-time) and (4) Postgraduate Affairs (part-time). The Deputy Dean for Research heads up the Faculty’s Research Enterprise.

A key component of the Research Directorate is the Faculty Research Finance Office, which also reports to the Faculty Finance Officer. The head of the Research Finance Office has a staff of ten reporting to him. These staff members are divided into pre-award and post-award sections. All new research grant applications submitted by the members of the Faculty pass through the pre-award section and must ultimately be signed off by head of the Research Finance Office and the Deputy Dean for Research.

The Faculty Research Office has grown since the external review in 2010, and now comprises the Research Administration Manager, the Research Strategy Manager and the Research Administrative Assistant. The functions of the Faculty Research Office include administration, communications, grant writing and funds management.

There are three key committees that report to the Research Directorate: the Faculty Research Committee, the Human Research Ethics Committee and the Animal Research Ethics Committee:

- The Faculty Research Committee is chaired by the Deputy Dean for Research and has 13 departmental representatives (11 academic departments plus the Institute of Infectious Disease and Molecular Medicine and the Primary Health Care Directorate). Ex officio members include the Dean of the Faculty, Deputy Dean for Postgraduate Studies, the Faculty Finance Manager, the chairs of the Human and Animal Ethics Committees, the University’s Executive Director of Research and the Deputy Vice Chancellor for Research. Among the responsibilities of the FRC are: determining strategic priorities, approving the annual budget of the Research Directorate, prioritising annual equipment requests and determining top-up funding levels for individuals, departments and research units.

- The Human Research Ethics Committee and the Animal Research Ethics Committee have a key role to play in facilitating research across the Faculty. Each of these committees has a chair who is appointed by the Dean on the recommendation of the Deputy Dean, for a three-year term of office. Servicing the needs of these two committees are staff members from the Faculty Research Directorate. Reporting to the Deputy Dean for Research is the UCT Research Animal Facility Director and FHS Veterinarian.
3.6.2 Proposed future governance structures

The imperatives of optimising our increasing research productivity and ensuring our research integrity, alongside the rapidly growing expectations of funding agencies and regulatory authorities, have created the need to expand the governance structures within the FHS, with those highlighted in dark blue in Figure 4 currently under consideration. The motivation for each additional governance structure is summarised below.

Figure 4: Possible future governance structure for research in the UCT FHS

<table>
<thead>
<tr>
<th>SCORE: Senior Council for Optimising the Research Enterprise</th>
<th>FRC: Faculty Research Committee</th>
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<tr>
<td>Faculty Research Finance Oversight Committee</td>
<td>Equipment and Core Facilities Steering Committee</td>
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<tr>
<td>Faculty Research Office</td>
<td>Research Grants and Finance Management</td>
</tr>
<tr>
<td>Research Contracts and Intellectual Property Services</td>
<td>Research Communication</td>
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Senior Council for Optimising the Research Enterprise (SCORE): While the External Review Panel identified the importance of the FRC in fostering the research enterprise within each department, it recognised that as departmental representatives its members were placed in a difficult position when it came to making strategic decisions from which only a few groups could benefit in the short to medium term. SCORE is the Faculty's proposed response to the External Review Panel recommendation for the creation of a committee whose membership should be confined to the Faculty's world leaders in research, drawn from basic, clinical, translational and public health areas. This committee should provide strategic guidance on the Research Enterprise and identify the routes for widening provincial, national, African and international recognition for the Faculty's research accomplishments.

Faculty Research Finance Oversight Committee: The FHS manages an annual turnover of research grants of almost R 500 million, has numerous stakeholders, engages with massive numbers of research participants, is subject to increasingly stringent financial accountability requirements of external/foreign donors, and is exposed to significant financial risks in relation to, for example, contract clinical research. The creation of a Faculty Research Finance Oversight Committee to identify and manage the financial risks associated with our research, as part of a general strategy to strengthen governance, is becoming a necessity.

In the first instance, an experimental Research Finance Oversight Committee will use the IIDMM as a model in order to develop suitable oversight mechanisms for wider use in the Faculty. The representation and terms of reference of this committee have yet to be finalised, but it will likely report, through designated representation, to the FHS Deanery, URC, University Finance Committee and Risk Management Committee.

The purpose of the initial Research Finance Oversight Committee will include:

- To develop oversight mechanisms for pre-defined high-risk research grant applications and research contracts, such that any risk to the Faculty is identified and mitigated in advance.
• Identify weaknesses in the financial governance structures within the Faculty and UCT that impact on the quality of financial decision making. This will include aspects of both financial and contractual management within, and related to, the Faculty.

**Equipment and Core Facilities Steering Committee:** As outlined in 3.1.2 above, ensuring that world class multi-user equipment and core facilities are available to our researchers is pivotal for enabling growth in research productivity and integrity in our Faculty. Nationally and internationally, core facilities are subsidised by central university funding. Such funding at UCT is limited and its allocation to the different core facilities does not appear to correlate with their needs or productivity. The level of maintenance of our core facilities is variable, and dependent on external funding which is often intermittent. Currently the FRC has two members who lead the process of prioritising equipment grant applications, but the creation of a steering committee has been proposed to ensure optimal investment in, maintenance of, and faculty-wide use of multi-user equipment and core facilities.

**Clinical Research Unit Steering Committee:** As outlined in 3.1.1 above, a Faculty-wide steering committee will drive the development and establishment of this pivotal infrastructure, ensure its sustainability as well as enable equitable access to, and optimal use, of clinical research unit resources.

**Health Research Fundraising Committee:** While many individual researchers are excellent at raising funds for their own research projects, there is a large gap between what UCT and the Faculty is able to provide in terms of research infrastructure and posts, and what is needed for the Faculty to achieve its aspirations of rising further in the world university rankings, building the health research leaders of the future and, most importantly, conducting the research needed to reduce the burden of disease nationally and regionally. The Faculty has committed to the appointment of a fundraiser, who can assist with raising funds for meeting Faculty-wide research needs, but who will need the strategic guidance of a committee comprising those with the vision and skills to ensure the game-changing success of this critically important endeavour.

**Undergraduate Research Committee:** The growth of health research is being encouraged at all levels in the faculty, and there is huge potential for inspiring and encouraging undergraduate students to contribute to this knowledge generation and develop skills to critically appraise research publications in order to better inform their future clinical practice. Building on the initiative shown by students in the Department of Surgery, and the need to grow and ensure synergy between undergraduate research opportunities created across the Faculty, the creation of an Undergraduate Research Committee has been proposed.

**Clinical Trials Support Hub:** A Clinical Trials Support Hub is needed to facilitate GCP-compliant trial conduct by our clinical trialists. This resource is particularly critical for UCT to continue committing to act as a study sponsor (as is increasingly being required by funders, such as the EDCTP), and to conduct the higher risk but high value studies (e.g. First in Man and Human Challenge studies) that are needed to translate drug discovery (including those from UCT’s Drug Discovery Signature Theme) into potential solutions to African health problems. While the Faculty works with Principal Investigators to address any study’s short-comings, it does not have the human resources required to function in a reactive mode. GCP compliance functions are currently managed piecemeal by individual research groupings in the Faculty. A Clinical Trials Support Hub could rationalise and consolidate these resources into a hub that provides Faculty-wide GCP compliance support. The hub should be able to recover most of its costs through training and monitoring services, but it is essential that it be staffed by skilled individuals who do not depend directly on Principal Investigators for their salaries.

**Information Systems Advisory Committee:** It is widely acknowledged that the Faculty's information systems have not kept pace with the rapid growth in the scale and complexity of
our Research Enterprise. A large proportion of researchers’ time is spent on manual extraction of information that is regularly required (e.g. financial sustainability, postgraduate trainees by supervisor or by funder, identification of high-risk research contracts, research links with institutions nationally, regionally and internationally). Another major challenge is that our systems no longer adhere to international standards required by funders and regulatory agencies for research data management, curation and storage. These deficiencies are in the process of being addressed by UCT, through initiatives like the e-Research Portal, additional IRMA.net modules, SAP Business One and Business Solutions, but a dedicated FHS group is needed to liaise with those driving each of these to ensure that the complexity of the Faculty's needs are met.

**Institutional Biosafety Committee:** The Faculty currently does not have a biosafety committee that is NIH compliant. A recommendation has been made to the Deputy Vice-Chancellors for Research and Operations to set up a compliant Institutional Biosafety Committee at the University level, which will provide oversight for minimising the key health and safety risks across the University. This compliments an ongoing process in the FHS for strengthening management of neglected Health and Safety issues, many of which pertain to research.
4. **Way forward**

This Strategic Plan for Research will be followed by a supplementary document (currently being drafted) that defines the detailed objectives, planned activities and expected outputs needed at University, Faculty and Departmental level to effectively implement the Strategic Plan. The benchmarking of the Faculty’s research against national and international institutions, outlined in Appendix C, will be updated annually to inform the assessment of the effectiveness of the strategies implemented, and revision of these strategies where needed.
Appendix A: The University of Cape Town Mission Statement

UCT aspires to become a premier academic meeting point between South Africa, the rest of Africa and the world. Taking advantage of expanding global networks and our distinct vantage point in Africa, we are committed through innovative research and scholarship, to grapple with the key issues of our natural and social worlds. We aim to produce graduates whose qualifications are internationally recognised and locally applicable, underpinned by values of engaged citizenship and social justice. UCT will promote diversity and transformation within our institution and beyond, including growing the next generation of academics.

Foundation statement underpinning the mission statement
Our research-led identity is shaped by a commitment to: academic freedom as the prerequisite to fostering intellectual debate and free inquiry; ensuring that research informs all our activities including teaching, learning and service in the community; advancing and disseminating knowledge that addresses the key challenges facing society – South African, continental and global; protecting "curiosity driven" research; nurturing and valuing creativity in the sciences and arts including the performing and creative arts; stimulating international linkages of researchers and research groupings.

We strive to provide a superior, quality educational experience for undergraduate and postgraduate students through: providing an intellectually and socially stimulating environment; inspired and dedicated teaching and learning; exposure to the excitement of creating new knowledge; stimulating the love of life-long learning; the cultivation of competencies for global citizenship; supporting programmes that stimulate the social consciousness of students; offering access to courses outside the conventional curricula; attracting a culturally and internationally diverse community of scholars; guaranteeing internationally competitive qualifications; offering a rich array of social, cultural, sporting and leadership opportunities; providing an enabling physical and operational environment.

In advancing UCT as an Afropolitan university, we will expand our expertise on Africa and offer it to the world; extend our networks on the continent, along with our global connections and partnerships; promote student and staff exchanges and collaborative research and postgraduate programmes; engage critically with Africa’s intellectuals and world views in teaching and research; contribute to strengthening higher education on our continent.

We strive to provide an environment for our diverse student and staff community that: promotes a more equitable and non-racial society; supports redress in regard to past injustices; is affirming and inclusive of all staff and promotes diversity in demographics, skills and backgrounds; offers individual development opportunities to all staff; is welcoming as a meeting space for scholars from Africa and around the world.
Appendix B: The UCT Faculty of Health Sciences Vision, Mission, Values and Goals

OUR VISION
To be a premier health sciences institution, contributing to global health through leadership, collaboration and social responsiveness

OUR MISSION
The Faculty of Health Sciences’ mission is to promote health equity through promoting health professional standards in the delivery of quality health care; educating health professionals, educators and scientists for life; and undertaking research relevant to the needs of our country, the African continent and globally.

VALUES
In all our teaching, research, health care and social responsiveness we strive to be:
• Guided by high ethical and professional standards;
• Informed by evidence;
• Committed to the principles of respect for human rights and human dignity; and
• Led by the values of quality care, health equity and social justice.

In our practice, we will aspire to the following CHARACTERISTICS:
• Flexibility;
• Excellence;
• Relevance;
• Adaptability to change;
• Collaboration and partnership.

The GOALS of our Faculty are to:
• Respond to the health care needs of South Africa;
• Produce and support health practitioners and scientists capable of addressing health need;
• Promote a spirit of enquiry; and
• Contribute to global health equity.

In pursuit of these goals, the objectives adopted are aligned with the broader goals of the University, and with the mandates of higher education, science and development. In particular, they also align with the requirements of the health sector in the region, the Country, the African continent and globally.
Appendix C: Benchmarking / situational analysis of the University of Cape Town (UCT) Faculty of Health Sciences (FHS)

UNIVERSITY RANKING
The FHS contributes significantly to UCT performing well in international university rankings.

Table 1: World rankings of South African universities, overall and by discipline

<table>
<thead>
<tr>
<th>University</th>
<th>Times Higher Education (2012/13)</th>
<th>Quacquarelli Symonds (2012/13)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Health Science</td>
</tr>
<tr>
<td>UCT</td>
<td>113</td>
<td>50</td>
</tr>
<tr>
<td>WITS</td>
<td>226-250</td>
<td>NA</td>
</tr>
<tr>
<td>SU</td>
<td>251-275</td>
<td>NA</td>
</tr>
<tr>
<td>KZN</td>
<td>351-400</td>
<td>NA</td>
</tr>
<tr>
<td>UP</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

UCT: University of Cape Town, WITS: University of the Witwatersrand, SU: Stellenbosch University, KZN: University of KwaZulu-Natal, UP: University of Pretoria, NA: not applicable

Figure 1: UCT is the top African university in SCImago Ranking (2011)

http://www.scimagoir.com
Table 2: UCT is the top African University in the Leiden Rankings (2012)
Publication years 2005-2009; citation window: up to and including 2010 (CWTS/TR Web of Science)

<table>
<thead>
<tr>
<th></th>
<th>UCT</th>
<th>WITS</th>
<th>SU</th>
<th>UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication output – P (whole counts)</td>
<td>5557</td>
<td>3958</td>
<td>3748</td>
<td>3915</td>
</tr>
<tr>
<td>Ave. number of citations per publication</td>
<td>8.7</td>
<td>6.1</td>
<td>6.4</td>
<td>4.1</td>
</tr>
<tr>
<td>Field-normalized ave. citations (global ave. = 1)</td>
<td>1.16</td>
<td>0.92</td>
<td>0.97</td>
<td>0.75</td>
</tr>
<tr>
<td>Share of P in world's top 10% most highly cited per field of science</td>
<td>12%</td>
<td>9%</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td>P in world's top 10% (surplus/deficit in %)</td>
<td>23%</td>
<td>-13%</td>
<td>-5%</td>
<td>-41%</td>
</tr>
<tr>
<td>Share of co-authored publications in P</td>
<td>70%</td>
<td>64%</td>
<td>63%</td>
<td>60%</td>
</tr>
<tr>
<td>Share of intern. co-authored publications in P</td>
<td>54%</td>
<td>46%</td>
<td>42%</td>
<td>40%</td>
</tr>
<tr>
<td>Ave. distance of co-publication partners (km)</td>
<td>6277</td>
<td>5329</td>
<td>4491</td>
<td>4254</td>
</tr>
<tr>
<td>Share of co-authored publications with km &gt;1000</td>
<td>59%</td>
<td>50%</td>
<td>45%</td>
<td>43%</td>
</tr>
</tbody>
</table>

UCT: University of Cape Town, WITS: University of the Witwatersrand, SU: Stellenbosch University, UP: University of Pretoria
The FHS has a very strong publication record, both within UCT and in comparison with health sciences faculties in other South African universities.

**Table 3: UCT accredited journal output units by faculty**

<table>
<thead>
<tr>
<th>Faculty</th>
<th>2004</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>CHED</td>
<td>16.70</td>
<td>10.35</td>
<td>15.00</td>
<td>10.70</td>
<td>19.19</td>
<td>21.50</td>
<td>19.68</td>
<td>14.00</td>
</tr>
<tr>
<td>COM</td>
<td>36.20</td>
<td>41.68</td>
<td>36.04</td>
<td>51.36</td>
<td>49.64</td>
<td>49.47</td>
<td>59.04</td>
<td>56.56</td>
</tr>
<tr>
<td>EBE</td>
<td>61.90</td>
<td>71.36</td>
<td>71.54</td>
<td>72.66</td>
<td>102.89</td>
<td>90.45</td>
<td>94.68</td>
<td>94.67</td>
</tr>
<tr>
<td>FHS</td>
<td>219.4</td>
<td>222.81</td>
<td>271.32</td>
<td>290.96</td>
<td>348.89</td>
<td>370.94</td>
<td>378.07</td>
<td>452.00</td>
</tr>
<tr>
<td>HUM</td>
<td>84.10</td>
<td>128.84</td>
<td>118.43</td>
<td>136.47</td>
<td>115.20</td>
<td>130.96</td>
<td>157.67</td>
<td>130.02</td>
</tr>
<tr>
<td>LAW</td>
<td>20.00</td>
<td>47.70</td>
<td>32.50</td>
<td>29.25</td>
<td>36.33</td>
<td>52.67</td>
<td>61.18</td>
<td>49.58</td>
</tr>
<tr>
<td>FSC</td>
<td>234.50</td>
<td>231.96</td>
<td>247.42</td>
<td>321.46</td>
<td>285.65</td>
<td>322.06</td>
<td>301.34</td>
<td>327.20</td>
</tr>
<tr>
<td>MISC</td>
<td>-</td>
<td>-</td>
<td>0.66</td>
<td>1.84</td>
<td>0.8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>672.80</td>
<td>754.70</td>
<td>792.90</td>
<td>914.70</td>
<td>958.59</td>
<td>1038.05</td>
<td>1071.66</td>
<td>1124.03</td>
</tr>
</tbody>
</table>


**Figure 2: The shape of knowledge production (1990 – 2010)**

Of all UCT's accredited journal publications, 31.5% are in the field of health sciences. [Figure provided by Johan Mouton, Stellenbosch University]
Table 4: Faculty of Health Sciences accredited journal output units at South African universities

<table>
<thead>
<tr>
<th>University</th>
<th>2004</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>UCT</td>
<td>219.4</td>
<td>222.81</td>
<td>271.32</td>
<td>290.96</td>
<td>348.89</td>
<td>370.94</td>
<td>378.20</td>
<td>452.00</td>
</tr>
<tr>
<td>WITS</td>
<td>185.21</td>
<td>220.3</td>
<td>202.78</td>
<td>261.64</td>
<td>260.11</td>
<td>242.71</td>
<td>250.76</td>
<td>n/a</td>
</tr>
<tr>
<td>SU</td>
<td>n/a</td>
<td>126.79</td>
<td>146.32</td>
<td>152.30</td>
<td>168.79</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>KZN</td>
<td>113.3</td>
<td>109.43</td>
<td>151.37</td>
<td>111.52</td>
<td>147.87</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>UP</td>
<td>115.59</td>
<td>105.38</td>
<td>130.64</td>
<td>139.88</td>
<td>121.59</td>
<td>156.87</td>
<td>153.97</td>
<td>139.92</td>
</tr>
</tbody>
</table>

UCT: University of Cape Town, WITS: University of the Witwatersrand, SU: Stellenbosch University, KZN: University of KwaZulu-Natal, UP: University of Pretoria, n/a: not available (at time of compilation)

Figure 3: Distribution of university output by journal index (1990 – 2010). Of all South African Universities, UCT has the highest proportion of its publications in international (67%) and all (79%) Institute of Scientific Information (ISI) indexed journals. [Figure provided by Johan Mouton, Stellenbosch University]

NMMU: Nelson Mandela Metropolitan University, UNISA: University of South Africa, NWU: North-West University, UWC: University of the Western Cape, Rhodes: Rhodes University, UFS: University of the Free State, UP: University of Pretoria, SU: Stellenbosch University, UJ: University of Johannesburg, UKZN: University of KwaZulu-Natal, WITS: University of the Witwatersrand, UCT: University of Cape Town
RESEARCH INCOME
The FHS makes a huge contribution to UCT’s overall research income.

**Table 5: Research income of UCT, by faculty and source of funding (2011; in Rand)**

<table>
<thead>
<tr>
<th></th>
<th>SA Govt</th>
<th>Public Entities</th>
<th>SA Non Profit</th>
<th>SA Science Councils</th>
<th>SA Industry</th>
<th>Foreign Govt</th>
<th>Foreign Non Profit</th>
<th>Foreign Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHED</td>
<td>497 825</td>
<td>0</td>
<td>224 500</td>
<td>0</td>
<td>525 351</td>
<td>380 251</td>
<td>937 535</td>
<td>0</td>
</tr>
<tr>
<td>COM</td>
<td>41 355 591</td>
<td>150 396</td>
<td>1 878 411</td>
<td>462 000</td>
<td>3 361 269</td>
<td>3 619 808</td>
<td>6 299 855</td>
<td>0</td>
</tr>
<tr>
<td>EBE</td>
<td>22 742 829</td>
<td>5 022 998</td>
<td>9 103 642</td>
<td>6 109 785</td>
<td>36 142 831</td>
<td>2 851 189</td>
<td>9 458 822</td>
<td>2 751 099</td>
</tr>
<tr>
<td>FSH</td>
<td>5 883 810</td>
<td>6 636 667</td>
<td>8 491 992</td>
<td>5 340 071</td>
<td>20 430 080</td>
<td>16 291 380</td>
<td>145 059 819</td>
<td>54 660 142</td>
</tr>
<tr>
<td>HUM</td>
<td>18 725 561</td>
<td>40 000</td>
<td>1 228 242</td>
<td>47 700</td>
<td>1 021 500</td>
<td>141 238</td>
<td>345 391</td>
<td>0</td>
</tr>
<tr>
<td>LAW</td>
<td>1 021 640</td>
<td>543 838</td>
<td>494 737</td>
<td>100 000</td>
<td>0</td>
<td>1 647 727</td>
<td>2 494 323</td>
<td>5 829 553</td>
</tr>
<tr>
<td>FSC</td>
<td>1 879 719</td>
<td>28 408 017</td>
<td>3 678 347</td>
<td>7 561 199</td>
<td>5 014 644</td>
<td>6 540 780</td>
<td>21 911 945</td>
<td>582 388</td>
</tr>
<tr>
<td>GSB</td>
<td>157 895</td>
<td>0</td>
<td>31 707 082</td>
<td>0</td>
<td>7 482 420</td>
<td>8 163 940</td>
<td>2 087 763</td>
<td>0</td>
</tr>
</tbody>
</table>

CHED: Centre for Higher Education Development, COM: Commerce, EBE: Engineering & the Built Environment, FHS: Health Sciences, HUM: Humanities, LAW: Law, FSC: Science, GSB: Graduate School of Business

**Table 6: Research income of UCT, FHS and the Institute of Infectious Disease and Molecular Medicine (IIDMM; in millions of Rand)**

<table>
<thead>
<tr>
<th></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>IIDMM</td>
<td>48 (30%)*</td>
<td>58 (36%)*</td>
<td>91 (42%)*</td>
<td>125 (48%)*</td>
<td>172 (53%)*</td>
<td>167 (52%)*</td>
<td>199 (47%)*</td>
</tr>
<tr>
<td></td>
<td>(12%)^</td>
<td>(15%)^</td>
<td>(17%)^</td>
<td>(19%)^</td>
<td>(22%)^</td>
<td>(23%)^</td>
<td>(22%)^</td>
</tr>
<tr>
<td>FHS</td>
<td>166 (41%)^</td>
<td>160 (40%)^</td>
<td>214 (39%)^</td>
<td>259 (40%)^</td>
<td>325 (42%)^</td>
<td>322 (45%)^</td>
<td>409 (46%)^</td>
</tr>
<tr>
<td>UCT</td>
<td>405</td>
<td>399</td>
<td>548</td>
<td>652</td>
<td>770</td>
<td>713</td>
<td>894</td>
</tr>
</tbody>
</table>

*Percentage of FHS income; ^Percentage of UCT income
POSTGRADUATE AND POSTDOCTORAL TRAINING
In 2011 the Faculty was home to more than 1 800 postgraduate students, with 292 of these being PhD candidates. During two graduation ceremonies, the Faculty awarded 144 masters degrees and 52 PhDs. Disciplines ranged from Clinical Science and Immunology, to Virology and Public Health. In addition, the Faculty conferred 69 honours degrees and 135 postgraduate diplomas.

Table 7: Postgraduate students registered in the FHS at UCT

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honours</td>
<td>68</td>
<td>66</td>
<td>69</td>
<td>67</td>
<td>70</td>
<td>87</td>
</tr>
<tr>
<td>PG Diplomas</td>
<td>103</td>
<td>106</td>
<td>122</td>
<td>177</td>
<td>174</td>
<td>267</td>
</tr>
<tr>
<td>Masters</td>
<td>659</td>
<td>736</td>
<td>846</td>
<td>921</td>
<td>929</td>
<td>1073</td>
</tr>
<tr>
<td>Doctoral</td>
<td>178</td>
<td>195</td>
<td>214</td>
<td>235</td>
<td>242</td>
<td>297</td>
</tr>
<tr>
<td>PG Occasional</td>
<td>23</td>
<td>20</td>
<td>60</td>
<td>34</td>
<td>n/a</td>
<td>34</td>
</tr>
<tr>
<td>Post Doctoral</td>
<td>32</td>
<td>35</td>
<td>35</td>
<td>47</td>
<td>68</td>
<td>93</td>
</tr>
<tr>
<td>Total</td>
<td>1066</td>
<td>1158</td>
<td>1346</td>
<td>1481</td>
<td>1483</td>
<td>1851</td>
</tr>
</tbody>
</table>

n/a: not available

Table 8: Doctoral students registered and degrees awarded in the FHS

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered PhD</td>
<td>178</td>
<td>195</td>
<td>214</td>
<td>235</td>
<td>242</td>
<td>292</td>
</tr>
<tr>
<td>Registered MD-PhD</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>PhD Degrees awarded</td>
<td>n/a</td>
<td>19</td>
<td>38</td>
<td>43</td>
<td>32</td>
<td>52</td>
</tr>
</tbody>
</table>

n/a: not available
RESEARCH STAFF

The FHS hosts nine of the 30 A-rated scientists at UCT

Nine of UCT’s 30 A-rated scientists are in the FHS. They are Professors Eric Bateman, Frank Brombacher, Michael Kew, Timothy Noakes, Lionel Opie, Dan Stein, Valerie Mizrahi, Kit Vaughan and Heather Zar. UCT’s Faculty of Science has 12 A-rated scientists, the Humanities six, Engineering two and Law one.

Eight of the 29 National Research Foundation Chairs at UCT are within the FHS

The South African Research Chairs Initiative (SARChI) is a brain gain and research capacity development intervention by the Department of Science and Technology (DST), which is being administered by the National Research Foundation (NRF). The Chairs are expected to contribute significantly to helping universities realise their strategic research plans and the initiative is intended to provide a base on which to consolidate and extend excellence in research. Currently, UCT holds 29 of the total 154 Chairs awarded nationally by the DST since the inception of the initiative in 2006. It is noteworthy to mention that 8 (28%) of the University’s 29 Chairs have been secured by FHS Members: Prof Jonathan Blackburn (Applied Proteomics and Chemical Biology), Prof Frank Brombacher (Immunology of Infectious Diseases in Africa), A/Prof Marc Combrink (Neurosciences), A/Prof Keertan Dheda (Lung Infection and Immunity in Poverty Related Diseases), Prof Iqbal Parker (Cancer Biology), Prof Di McIntyre (Health and Wealth in South Africa), A/Prof Ernesta Meintjes (Brain Imaging) and Prof Anna-Lise Williamson (Vaccinology).

Table 9: FHS research related staff

<table>
<thead>
<tr>
<th>UCT Academic Staff</th>
<th>2010</th>
<th>2011</th>
<th>At November 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics</td>
<td>445</td>
<td>513</td>
<td>492</td>
</tr>
<tr>
<td>Joint NHLS (of which registrars)</td>
<td>66</td>
<td>58</td>
<td>65 (29)</td>
</tr>
<tr>
<td>Joint PGWC (of which registrars)</td>
<td>1001 (350)</td>
<td>687 (266)</td>
<td>692 (232)</td>
</tr>
<tr>
<td>Technical Staff</td>
<td>n/a</td>
<td>n/a</td>
<td>25</td>
</tr>
<tr>
<td>Research Officers</td>
<td>89</td>
<td>77</td>
<td>92 (various levels)</td>
</tr>
</tbody>
</table>

NHLS: National Health Laboratory Service, PGWC: Provincial Government of the Western Cape, n/a: not available
RESEARCH GROUPINGS

The FHS houses 21 of UCT's 69 accredited research units (including nine of the Medical Research Council's 22 extramural research units)

The Faculty is also home to 21 of the 69 research groupings or entities that are accredited by the University Research Committee. The Medical Research Council of South Africa has 41 Research Units, Groups and Lead Programmes, which focus on the health priorities of South Africa. Twenty-two of these are located at Universities throughout SA and UCT’s FHS houses nine of them. All accredited research groups are reviewed every five years.

Table 10: Accredited research groups in the FHS

<table>
<thead>
<tr>
<th>Research group</th>
<th>Director of group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent Health Research Unit (AHRU)</td>
<td>Prof P de Vries</td>
</tr>
<tr>
<td>Albertina &amp; Walter Sisulu Institute for Ageing in Africa (IAA)</td>
<td>Prof S Kalula</td>
</tr>
<tr>
<td>Cardiovascular Research Unit (CRU)</td>
<td>Prof P Zilla</td>
</tr>
<tr>
<td>Centre for Infectious Disease Epidemiology and Research (CIDER)</td>
<td>A/Prof A Boule</td>
</tr>
<tr>
<td>Centre for Occupational and Environmental Health Research (COEHR)</td>
<td>A/Prof Aqiel Dalvie</td>
</tr>
<tr>
<td>Desmond Tutu HIV Centre (DTHC)</td>
<td>Prof R Wood</td>
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<td>Gender, Health and Justice Research Unit</td>
<td>A/Prof L Artz</td>
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<td>Hatter Institute for Cardiovascular Research in Africa</td>
<td>Prof K Sliwa-Hahnle</td>
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<td>Health Economics Unit (HEU)</td>
<td>Dr E Sinanovic</td>
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<td>Institute of Infectious Disease and Molecular Medicine (IIDMM)</td>
<td>Prof V Mizrahi</td>
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<td>MRC/UCT Cape Heart Centre</td>
<td>Prof P Zilla</td>
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<td>MRC/UCT Drug Discovery and Development Research Unit</td>
<td>Prof K Chibale</td>
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<td>MRC/UCT Human Genetics Research Unit</td>
<td>Prof R Ramesar</td>
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<td>MRC/UCT Immunology of Infectious Diseases Unit</td>
<td>Prof F Brombacher</td>
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<td>MRC/UCT Medical Imaging Research Unit (MIRU)</td>
<td>Prof T Douglas</td>
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<td>MRC/NHLS/UCT Molecular Mycobacteriology Research Unit</td>
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<td>MRC/UCT Oesophageal Cancer Research Group</td>
<td>Prof Ml Parker</td>
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<td>MRC/UCT Receptor Biology Research Group</td>
<td>Prof A Katz &amp; Em Prof R Millar</td>
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<tr>
<td>MRC/UCT Research Unit for Exercise Science and Sports Medicine</td>
<td>Prof TD Noakes</td>
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<td>UCT Leukaemia Unit</td>
<td>Prof N Novitzky</td>
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<td>Women’s Health Research Unit (WHRU)</td>
<td>A/Prof J Harries</td>
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Two of the six UCT signature themes involve the FHS

At present UCT has six signature themes that were selected after a rigorous proposal-driven process and reviews by external experts in the relevant fields. The publicity and seed funding given to the themes have a gearing effect on access to large external grants and help attract postgraduate students and postdoctoral fellows to areas of novel inter-disciplinarity. As all the themes have taproots into the curricula, they serve as mechanisms to build critical mass in areas of need. The Brain-Behaviour Initiative is a cross-faculty, multidisciplinary, collaborative framework to promote research in the cognitive and affective neurosciences. Prof Dan Stein, current Head of Psychiatry, is presently the Director of the BBI. The Drug Discovery Signature Theme fosters collaboration and accelerates training in drug-discovery to drive research and build a critical mass of future scientists and academics in this field. Prof Kelly Chibale of the IIDMM and the Department of Chemistry is currently the Director.
### Appendix D: List of Acronyms

- **BMGF**: Bill and Melinda Gates Foundation
- **CIDRI**: Clinical Infectious Diseases Research Initiative
- **CoE**: Cost of Employment
- **DoH**: Department of Health
- **DST**: Department of Science and Technology
- **DTHC**: Desmond Tutu HIV Centre
- **EDCTP**: European and Developing Countries Clinical Trials Partnership
- **FHS**: Faculty of Health Sciences
- **FRC**: Faculty Research Committee
- **GCP**: Good Clinical Practice
- **GLP**: Good Laboratory Practice
- **GOB**: General Operating Budget
- **IDTD**: interdisciplinary and transdisciplinary
- **IIDMM**: Institute of Infectious Disease and Molecular Medicine
- **MRC**: Medical Research Council
- **NEP**: National Equipment Programme
- **NHRC**: National Health Research Committee
- **NIH**: National Institutes of Health
- **NIPMO**: National Intellectual Property Management Office
- **NNEP**: National Nanotechnology Equipment Programme
- **NRF**: National Research Foundation
- **PASS**: Professional, Administrative and Support
- **SAAVI**: South African AIDS Vaccine Initiative
- **SARCHi**: South African Research Chairs Initiative
- **SATVI**: South African Tuberculosis Vaccine Initiative
- **SCORE**: Senior Council for Optimising the Research Enterprise
- **SFARS**: Soft-funded academic and research staff
- **UCT**: University of Cape Town
- **URC**: University Research Committee
- **WHO**: World Health Organization