



Central University of
Technology, Free State



Thinking Beyond

2010
CUT ANNUAL REPORT

VISION

In 2010, the Council of CUT approved the following Vision 2020:

By 2020, Central University of Technology, Free State, shall be an engaged university that focuses on producing quality social and technological innovations in socio-economic developments, primarily in the central region of South Africa.

MISSION

In aspiring to fulfil its vision, CUT:

- Delivers high-quality appropriate Science, Engineering and Technology (SET) academic programmes supported by applied research;
- Engages with the community for mutually beneficial development;
- Promotes access with success in attracting potentially successful students and supports them to become employable graduates;
- Attracts and retains expert staff and supports their development and wellbeing; and
- Forges strategic partnerships.

CORE VALUES

- Customer service
- Integrity
- Diversity
- Innovation
- Excellence

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2010



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CONTENTS

MANAGEMENT

Message from the Chancellor	4
Message from the Chairperson of Council	6
Message from the Vice-Chancellor and Principal	8
New strategic direction for CUT	11
Leadership and Governance	15
Management and Administration	15
Institutional Operational Plan 2010	16
Council and Senate	17

ACADEMIC PROJECT

Academic Partnerships	20
Academic Development and Support	22
Community Engagement	25
Research Development and Innovation	28
Teaching and Learning Activities	36

INSTITUTIONAL ADVANCEMENT

Facilities and major Capital Projects	38
Special Events	39
University Life	41

FINANCIAL HEALTH OF THE UNIVERSITY

Financial Statements	45
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MANAGEMENT



Dr Boet Troskie,
Chancellor

Message from the Chancellor

The year 2010 was one of the most eventful years for CUT in that the University opened up its sports facilities as a practice ground to the Spanish National Team that went on to win the 2010 World Cup.

These games presented unique opportunities for CUT to foster its partnership engagements and test, in earnest, its commitment to becoming an engaged institution able to address opportunity needs of the region.

Most notable of this period was my inauguration as CUT Chancellor, and I wish to reiterate my appreciation for the honour the Council, staff members and students of CUT have bestowed upon me. It is undoubtedly not only one of the highlights of my career as a businessman, but also as a member of this community.

My association with CUT dates back to when it was widely known as Technikon Orange Free State in the eighties. I became attached to the institution then as the Chairman of the Council and the Board of Trustees respectively.

With humble beginnings in 1981, we opened our doors to 280 students as Technikon Orange Free State - our original name, to Technikon Free State in 1995; and Central University of Technology, Free State as we now know it in 2004. Each of these milestones

were vital in our pursuit to bring into context the motto of science in practice; and 2010 came at the time when CUT had just reviewed its vision that is relevant to our time and in line with this motto.

It is a known fact that CUT's vision in the past was about the University undertaking to become a globally connected university focusing on science, engineering and technology. This vision was accurate in that CUT remains committed to making socio-economic development a key focus point within the central region.

Currently with Vision 2020, we have placed the global aspect of this vision on the forefront by putting the central region of South Africa as an area of focus in pursuit of this vision. By so doing, we acknowledge partly that "charity begins at home." We have to build competitive advantages on the basis of the potential CUT holds for the region, its uniqueness and its location so that the world should focus on this region for solutions. We therefore want to see the central region become a centre of focus for both social and technological innovations.

By 2020, we want to see Central University of Technology, Free State, be an engaged university that focuses on producing quality social and technological innovations.

As we review the implementation of this vision we recognise equally that our partners; including staff members, students, business and government are an important component of CUT's institutional harmony; for a simple rationale that CUT is not a factory, but a community.

In view of this thought, I envision CUT becoming an intellectual sanctuary; an academic peace park; a safe haven for remarkable and inquisitive minds to develop and grow.

We continually strive for customer service, excellence, innovation, diversity and integrity as our hallmark. ■

Dr CA Troskie
Chancellor



Dr Sylvan Seane,
Chairperson of Council

Message from the Chairperson of Council

The very nature of any university's business is long-term. While there is a need for short-to-medium term development gains, these opportunities must not redefine a university's longer term goals of developing human and intellectual capital and deploying these in the interests of socio-economic development, within a very competitive global economic context.

As our transformation position paper stresses, the transformation of the University is a long-term goal where its engagement with staff and students is constantly redefined. The participation of staff and students in these engagements must be supported, encouraged and stimulated. The nature of the University's transformation requires steady and determined development of its capacities – especially its human resources and infrastructure – to consistently deliver the desired outcomes.

Given its vision, mission statement and core values, CUT centres itself on career-oriented training, community involvement and applied research, thus positively contributing to the South African higher education arena. CUT aspires to foster an institutional culture that reflects and serves the social order in South Africa, underpinning our vision to be a globally connected African university of technology that focuses on the needs of Southern Africa and supports graduates for citizenship with skills and competencies in appropriate technologies. It is our calling to deliver high-quality appropriate SET academic programmes supported by applied research. We foster national as well as international ties with other institutions of higher learning, and several students from neighbouring countries and abroad pursue their studies at the institution. As such, in 2010, CUT

was dedicated to educating, training and producing perceptive, socially conscious and relevant graduates in four faculties, namely Engineering and Information Technology; Health and Environmental Sciences; Management Sciences; and Humanities.

The seat of the University is situated in Bloemfontein – in the heartland of South Africa – with a second campus in Welkom. All operations of the CUT Regional Learning Centre in Kimberley have been incorporated into the National Institute of Higher Education: Northern Cape (NIHE: NC) as from 2010, following negotiations and the signing of a working agreement with the NIHE: NC in view of collaborating on the DHET policy for higher education provision in the Northern Cape Province. The CUT Vice-Chancellor and Principal was a member of the NIHE: NC Board, while the Deputy Vice-Chancellor: Academic sits on the NIHE: NC Academic Committee, which guides its programme offerings and partnerships with other higher education institutions.

This University of Technology (UoT) helps shape the future of approximately 1 500 graduates annually, all of whom have the opportunity to further their studies through our Graduate School. As a UoT, CUT specialises in SET-applied research. The University recognises the importance of partnerships with government, business and industry and to meet its research objectives and to contribute to the wellbeing of society. Research programmes include:

- New product development and design;
- Automated material handling and radiofrequency identification;
- Hydro-informatics;
- Information and communication technology;
- Applied food science and biotechnology;
- Bio-environmental studies;

- Health technology;
- Socio-economic development studies;
- Education; and
- Research development.

The Technology and Innovation places technological expertise and skills at the disposal of the community so that business can implement this knowledge in practice. Projects are undertaken with the aim of teaching people new skills and promoting job creation. By reaching out to the community, CUT has managed to improve the standard of living of many people. Since 2006, CUT has also been able to boast another fabulous first in central South Africa – the Free State's first Fabrication Laboratory (FabLab), which provides a thriving incubator for local micro businesses. The FabLab allows users to locally conceptualise, design, develop, fabricate and test almost anything. Other centres of applied research include:

- Centre for Rapid Prototyping and Manufacturing (CRPM);
- Tshumisano Technology Station;
- Centre for Environmental, Community and Industrial Development;
- Centre for Entrepreneurship and Business Development;
- Specialised Knowledge Improves Latent Living Standards (SKILLS); and
- Centre for the Built Environment. ■

Dr SM Seane
Chair: CUT Council



Prof. Thandwa Mthembu,
Vice-Chancellor and Principal

Message from the Vice-Chancellor and Principal

It is with great excitement and appreciation that I can now reflect on the year 2010. Our country's successful hosting of the FIFA Soccer World Cup was, of course, the highlight of the year for us as a nation, but a major achievement for CUT in this regard was being chosen as the official practice facility for the matches played in Bloemfontein.

Closer to home, we can now see tangible evidence that we, as an institution, are successfully achieving our goals and our mission – and indeed our Vision 2020. Although the steps taken might be small in some respects, they are steps in the right direction – purposeful steps! It is for this reason that I, as Vice-Chancellor and Principal of CUT, am confident that the seed that was planted many years ago, and which really started to bear fruit in 2010, will continue to grow and flourish in our pursuit of Vision 2020.

The year under review can be summed up as one during which we continued on our journey towards becoming an institution of excellence, fit for purpose and for the strategies we have chosen in accomplishing our vision. None of this would have been possible without the dedicated members of staff who always go the extra mile to serve CUT, its students and employees, as well as the broader community. Let us not forget our stakeholders, our partners, and most importantly our students, for their valuable contributions to every aspect of this institution, and for being with us every step of the way on this exciting journey towards excellence.

This review of the year 2010 would not be complete without mentioning the inauguration of our new Chancellor, Dr Boet Troskie, on 16 April. This auspicious occasion was undoubtedly a highlight for the institution – not only for 2010, but historically. Over the years, Dr Troskie has never wavered in his support of this

institution, from its earliest days as a technikon until now, in our present incarnation as a university of technology. His support has not only been financial – some of his most valuable contributions have been made in his capacity as a former member and chair of the CUT Council. It is only fitting that Dr Troskie now continues his journey with CUT as its esteemed Chancellor, and we salute him for his unfailing loyalty and continued commitment towards our success.

Moving on to matters of strategy, Vision 2020 is built upon three strategic sets, namely, **building a strong foundation** (internal values, relations and organisational design); **enhancing the academic project**, and **establishing strategic partnerships and enterprises** (in support of the first two sets). Within these three strategic sets are 14 institutional objectives and strategies that may vary from year to year, and my focus is thus on some highlights related to the embedding of processes and achievements.

The restructuring process that was embarked upon in 2007 was, for all intents and purposes, completed in 2010, with only some reorganisation at lower levels still to take place. **Building a strong foundation** has enabled us to use the restructuring process to steer the institution towards greater efficiency in teaching and learning, research and community engagement.

As a direct **strategic response** to Vision 2020, CUT launched a process called STEPS (Strategic Transformation of Educational Programmes and Structures) in February 2010. STEPS is a major analytical and interactive (internal and external) review of CUT's philosophy and education; curriculum content and structure; modalities of teaching, learning and support, as well as graduate attributes and competencies. This painstaking process of curriculum review is envisaged for completion at the end of 2011. The year 2010 may thus be remembered as a time for the "changing of the guard" at CUT, heralding a new era for the institution and its people. One thing that has not changed, however, is our

dedication to transformation and our pursuit of excellence in our core business areas.


Another accomplishment that deserves mention is the reduction in the budget proportion for staff salaries, from 64.50% in 2009 to 61.74% in 2010, and the favourable adjustment in the ratio of academic to support staff, with academics now comprising 62.43% of staff, compared to 60.65% in 2009.

Probably the most visible accomplishment of 2010 was the launch of several construction and development projects on both the Bloemfontein and Welkom campuses, aimed at benefitting our students and the local communities, and fulfilling our mandate of providing quality teaching, learning and research in an enabling environment.

The University recognises the importance of partnering with government, business and industry in pursuing its research objectives and contributing to the wellbeing of society. The basis of such interaction lies in the expert knowledge, practical skills, innovation and dedication inherent to this institution.

Since 2009, four new research and innovation platforms have emerged from our research and innovation niche areas, and these were built upon and developed further in 2010, namely the Agriculture and Mining Tooling Incubator (with the Small Enterprise Development Agency), the National Medical Device Innovation Platform (with the Medical Research Council), the Regional Innovation Centre and the IT Hub (both with the Free State Department of Education).

The University's Centre for Rapid Prototyping and Manufacturing and the Product Development Technology Station (supported by the Department of Science and Technology) continue to engage with business and industry, both large and small. The Science Park can be credited with securing a place for the institution at



the forefront of international academic standards, evident in the fact that CUT is now a member of the Medical Device Innovation Platform, which enables collaboration with other universities and the Medical Research Council on the development of medical devices for purposes of commercialisation. In addition, 2010 saw the continuation of two existing official partnerships – one between CUT’s School of Government Management and the Local Government Sector Education and Training Authority, and the other with the Public Administration Leadership and Management Academy.

We have certainly made progress in **enhancing our academic project**, with 2010 seeing the appointment of six research professors as a means of investing in our research and innovation initiatives. Our students also did us proud in 2010 by managing to raise their overall success (or pass) rate from 72.4% in 2009 to 73.6% in 2010. Not only does the ratio of black to white students currently stand at 85:15, but we are pleased to report a narrowing in the gap between black and white students in terms of pass rate. Given the academic resources now available to us, a new integrated process of broader academic transformation is possible. Our Work-integrated Learning initiative has proven to be a worthy endeavour, and we will continue to negotiate work placements for our students and monitor their progress as a means of improving the employment rate of our graduates.

I trust that this review has afforded a glimpse not only into the events of 2010, but also the progress that we as an institution are making towards fulfilling our Vision 2020 – by improving our infrastructure, enhancing our research and innovation capital, and promoting socio-economic development in the region. Our many accomplishments demonstrate CUT’s commitment to its vision and the crucial role it plays in the higher education arena, not only locally and regionally, but also on the national and international stage. I am certainly proud to be a part of that, and I know that we will continue in the same spirit and with the same sense of commitment in the years ahead. Together with our partners, we

will continue to move from strength to strength and accomplish all that we envisage.

In concluding this review of 2010, I can state in no uncertain terms that CUT is dedicated to maintaining its position as THE foremost institution of higher learning in the central region of South Africa – and as an **engaged** university – and that means allowing its staff and students every opportunity to reach their full potential.■

Prof. TZ Mthembu
Vice-Chancellor and Principal

New strategic direction for CUT

In achieving Vision 2020, CUT has based its approach on the Vice-Chancellor and Principal's 15-point strategy described in the 2008 Annual Report, which became a fully integrated part of the Institutional Strategy in 2009. The 15 points have been consolidated into three strategic sets:

Strategic Set 1

Building a Strong Foundation

(internal values, relations and organisational design)

The fundamental idea behind this strategic set is that the success of CUT depends on how it builds a strong foundation through broad transformation, entrenching appropriate values and an academically oriented ethos and how it redesigns its systems and structures to align with its vision.

- Improving "fitness for purpose" through institutional reorganisation and redesign.
- Equity and excellence, growth and redress, and development.
- Creation of a culture conducive to excellence, deliberation and innovation.
- Emancipating relations between academics and students and amongst different University community groupings.
- Transformation (transforming CUT from a technikon into an excellent University of Technology (UoT)).

Strategic Set 2

The Academic Project

More fundamentally, beyond just having the best of foundations, a university's success depends on the quality of its programmes and innovations, as well as the relevance thereof to the users in government, business, industry and society as a whole, and the quality of its staff and facilities. Five objectives fall under this strategic set, and they are:

- Instituting a learner-centred approach to teaching and learning.
- Enhancing Science, Engineering and Technology (SET), but with a human consciousness.
- Ensuring the supply of quality SET enrolments.
- Introducing vocational pedagogy as a research niche or area of scholarship.
- Creating a critical mass in research and teaching.
- Enhancing technology-oriented research and innovation.

Strategic Set 3

Partnerships and Advancement

Once a strong foundation has been built and once the academic project is well bedded in terms of the philosophy, content, methodology and structures, CUT shall need all sorts of external support mechanisms. Due to the nature of its academic mission – producing graduates mainly for the world of work, as well as innovations that should enhance industrial and business development – CUT has to build purposeful strategic partnerships.

- The choice of business and industry as primary partners for broader societal development.
- Government as a strategic partner (supporting and doing business with government for socio-economic development).
- Internationalisation (internationalising CUT).
- Engagement, strategic partnerships and advancement (making these part of a UoT's core business).

Strategic Sets - Summary of major Achievements in 2010

- Various smaller units have now been combined into a more coherent and manageable number, congruent with the size of the institution. By the start of 2010, virtually all senior management posts in support services had been filled. The salary budget, which was at 72% of the total of tuition fees and subsidy a few years ago stood at 61.7% in 2010, within the Minister's stipulated range of 58% - 62%.
- A new integrated process of broader academic transformation, known as Strategic Transformation of Educational Programmes and Structures (STEPS) commenced in February 2010, as planned in 2009, and is led by our academics. CUT believes that the focus of the learning process should be on the student rather than the lecturer, meaning that teaching methodologies must focus on the real needs of the student. The STEPS process includes a task team that deals with teaching and learning methodologies focusing on e-learning and distributed learning methodologies. The 2009 survey on the success of technology-enhanced education was used by the STEPS Task Team in 2010 to make recommendations and to identify relevant improvement strategies. This is a consolidated and co-ordinated curriculum development process, which arose from the fact that CUT's Vision 2020 requires the review of the philosophy, content and structures within the academe.
- Designing and implementing an equity and excellence project to grow the number of staff from designated groups and fast-track their development trajectory; earmarking funds for staff development and programmes; stabilising student equity in access and success. We established a unit known as the Higher Education Leadership Skills Academy (HELSKA) that comprises of two programmes, namely Stars of Academe and Research (SoAR), which focuses on academic staff at master's, doctoral and early postdoctoral levels, and Leaders in Education and Development (LEAD), which focuses on administrators and managers. Ten SoAR fellows are presently pursuing their master's and doctoral degrees.
- The ratio of black to white students stands at 85:15, and the gap between black and white students in terms of pass rate narrowed in 2010. Female students make up approximately 52% of the total student body. CUT's enrolment stood at 43% SET in 2007, but has since improved to a steady 48%, which exceeds the target. The academic and research development of academic staff continued in 2010, with an increase in the number of staff members participating in research, as well as an approximately 45% increase in research outputs compared to 2009. Knowledge-sharing sessions for the executives now include senior managers, as part of their professional development.
- An annual programme of lunchtime talks, arts-and-culture events as well as public seminars took place to encourage intellectual discourse.
- Workshops were held on the Leadership Charter as part of the University's expectations of behaviour.
- A well-developed and agreed-upon broad framework for transformation of all elements of CUT's core business; the idea of transformation to transcend issues of race, gender and appointments, but to also focus on the quality of our core business, outputs and outcomes; finalising and implementing a new Vision 2020 and relevant strategic plans in 2010.
- The new Faculty of Humanities is now fully in place, catering for Education, Fine Art, Communication Sciences and Graphic Design. The new Dean assumed duty in July 2010.
- Increase in the number of SET-qualifying matriculants in the Free State (in partnership with the Free State Dept of Education (DoE) and feeder schools). Agreements have been reached with the Free State Provincial Government on a number of interventions, namely: remodelling and expanding the Saturday School and Winter School programmes. Two hundred students were catered for in 2010, and the pass rate for those students was 85%. The Winter School and the Spring School programmes were funded by partner Standard Bank. A Feeder School Bursary Partnership was initiated, setting aside

R1.4 million to support excellent students from feeder schools, mainly in Mathematics and Science, for 2010.

- Starting a research niche area or a centre for vocational pedagogy, given that there should be expertise in this area within UoTs. A professor specialising in this area assumed duty in 2010 and, in partnership with some researchers from Germany, has since mapped the research project.
- Five new research professors were appointed in 2010 which established a critical mass of senior professors enhancing the current research thrusts and niche areas through partnerships and new staff.
- Three staff members underwent high-level software development training through the Johannesburg Centre for Software Engineering (JCSE) and the Software Engineering Institute (SEI) based at the Carnegie Mellon University in the USA, which also involved participants from the USA, Mexico and India, and these staff members will now impart their knowledge through a training programme for 20 CUT graduates, fast tracking their employability.
- The Free State Provincial Government entered into an agreement with CUT regarding the establishment of an IT Hub based on a concept paper drawn up by CUT. The IT Hub is being planned and the first phase (training a number of CUT graduates in state-of-the-art software development techniques) was scheduled to launch early in 2011.
- The SEDA Agriculture and Mining Tooling Incubator, established in 2009 as a Section 21 company through funding of R1.2 million, is now fully operational and will be supported over the next three years to the tune of around R10 million.
- The Medical Device Platform, supported by the Medical Research Council (MRC), was also established in 2010. The MRC identified CUT as one of its nodes in the Medical Device Incubation Platform project involving about five other universities in South Africa and CUT is the only UoT to be included.
- In 2010, a number of strategies were identified to enhance technology-oriented research and innovation field of endeavour. The majority of the six senior research professorships involved work in the area of technology-driven research.
- CUT's Centre for Rapid Prototyping and Manufacturing (CRPM) and the Product Development Technology Station (PDTs), which is supported by the DST, continues to engage with business and industry, both small and large. CUT is preparing to embark on a major public-private partnership (PPP) to develop a number of facilities that could be worth about R500 million, and there is considerable interest in this development. The CUT Services Enterprises Trust, which will house all commercial activities, was registered as a trust in 2010. CUT has produced a number of products ready for mass production and commercialisation, including the Genie Lamp, a lung tester, a safe paraffin stove, a water-leakage detector and medical implants for a hospital in the UK, using rapid prototyping technology.
- In terms of the memorandum of agreement concluded in 2009 with the Mangaung Local Municipality, training programmes were launched for CENTLEC, its electricity division, in 2010. A number of programmes designed to provide municipal support were devised and agreed upon with the municipality (e.g. National Certificate: Municipal Integrated Development Planning (IDP), National Diploma: Infrastructure Planning and Maintenance and National Certificate: Accounting) and launched in 2010. Expectations are that local and provincial government and the relevant SETAs will provide funding for those enrolling in these strategic programmes. The LGSETA has been instrumental in providing the necessary funding for the training of municipal and provincial staff; Education programmes referred to are also part of these initiatives.
- The Regional Innovation Centre (RIC) concept was adopted by the Free State Provincial Government (FSPG) as a virtual centre in the province to foster innovation for small, medium and micro enterprises (SMMEs) in particular. A start-up fund of R1.5 million was created with contributions of one third each from the FSPG, the DST and CUT itself.

- The partnership agreement with Kigali Institute of Science and Technology (KIST) in Rwanda was concluded in 2010. To date, three KIST staff members are registered in the staff development programme. In exploring a partnership with Chinhoyi University of Science and Technology in Zimbabwe, a visit to the university took place in November 2010 and projects should be launched in 2011.
- CUT and its partner universities in Germany, including Ulm and Aalen, exchanged visits in June 2010. In particular, CUT has an agreement with Ulm University of Applied Sciences regarding a renewable energy project, as well as an agreement regarding a broader sustainability project with Aalen University of Applied Sciences, which was initiated in October 2010. CUT has established a partnership with Missouri University of Science and Technology in the USA regarding manufacturing, mining and rapid prototyping. Exchange visits in this regard took place in 2010 and are scheduled to continue in the future.
- In October 2010, CUT hosted the Institute for Management in Higher Education (IHME) of the Organisation for Economic Co-operation and Development (OECD), which was conducting a review of university contributions to socio-economic development in the Free State. The review report, which should help to profile the work done at CUT, and will be published in 2011.
- A number of the strategies reflected above support this overarching goal. Although CUT's Community Engagement strategy is still in its infancy, a number of projects are already in progress; The Diversified Income Project (DIP) was established in September 2010 to strategically and operationally drive all efforts to diversify our support base. Clear project proposals are used to engage with potential supporters in business and industry, foundations and government. ■





Prof. Thandwa Mthembu,
Vice-Chancellor and Principal



Prof. Rocky Ralebipi-Simela,
Deputy Vice-Chancellor:
Academic



Prof. Mojalefa Ralekhetho
Acting Deputy Vice-Chancellor:
Resources and Operations



Prof. Talvin Schultz,
Deputy Vice-Chancellor:
Institutional Planning,
Partnerships and
Communications



Dr Gift Vinger,
Registrar

Leadership and Governance

Management and Administration

Administrative structures in the support and academic management divisions have been aligned as part of the broader three-phase institutional restructuring exercise, which produced new structures and the staff establishment currently in place. The broader academic structures like schools and programme management structures will be dealt with after the conclusion of the STEPS process in 2011.

Financial Management System

The University's financial management system has evolved fundamentally. In 2010, we were able to budget in such a manner that about R60 million in strategic funds could be set aside for the implementation of strategic priorities emanating from Vision 2020 and its strategic plans. This allows the institution to implement the vision incrementally and purposefully, without having to borrow funds.

Savings achieved from Phase 1 total are approximately R3 million as from 2008 when the new structure was put in place. Given the new middle management structure, savings of around R17 million were planned for 2009 when the new structure was supposed to have been in place, but this was only done in 2010. These savings have been reinvested in academe through increases in the number of academic staff. Since 2009, when restructuring savings began to emerge, we have established 56 new academic positions, with the last 14 approved in 2010 for the year 2011. This has resulted in the salary budget ratio of academic to support staff improving from 49:51 in 2007 to 57:43 in 2010. CUT is beginning to shift resources towards our core business.

Human Resources and Internal Audit function

The salary budget has been managed to within 61.74% (2009: 64.5%) of the total subsidy and tuition fees, is within the gazetted range of 58% – 62%. The actual personnel expenses for 2010 turned out to be only 62.85% (2009: 61.33%) of subsidy and tuition. The University had an official staff establishment that made the salary budget appear bulky. Investigation of the staff establishment led to the realisation that a number of positions in the staff establishment were superfluous, resulting in a bloated middle management core. After the completion of the executive management restructuring in 2007, Council approved the restructuring of middle management to be finalised in June 2009. The completion of the middle management restructuring in 2009 led to a further reduction in the salary bill, but keeping in mind that the salary budget for academic staff should increase, relative to that of support staff, in support of the core business of the University. For 2010, 57% of the salary budget was earmarked for academic positions versus 43% for support staff.

The performance of the internal audit function has greatly improved (delivery, quality and costs) since 2008. CUT has an annual Strategic Risk Register, a Three-Year Rolling Risk Management Plan and several planned internal audit activities. Risk Management has since 2008 become a major activity at both management and governance levels. In 2009, the external auditors for the first time relied on the work done by the internal auditors, and the continuation of this practice in 2010 proved that CUT's internal auditing system is functioning effectively.

Academic Administration

Academic administration was consolidated through the restructuring process of 2008/9, resulting in better co-ordinated and coherent units in this division. Preparations are in place to introduce online systems in this and other areas to ensure that staff and student services are delivered faster and more efficiently. As part of our quality assurance system in the academic and support sectors, our programmes and administrative units are audited regularly.

Infrastructure and facilities management

The internal auditors conducted a full review of the ICT system early in 2010, and the various recommendations are being implemented. Through TENET, CUT took advantage of the extra

and less expensive bandwidth made available through the SEACOM cable. The ITS system which is the administrative system for the University, was upgraded to Integrator v1.1 in 2009. This version provides a graphical interface and enables a number of additional functions, such as online procurement and registration. In 2010 a number of enhancements were implemented to improve resilience and enable a smooth disaster recovery process. This ensures that the University can recover from a disaster without loss of data.

Three of the six building projects, in partnership with Department of Higher Education and Training (DHET), proceeded according to schedule.

Quality of information available to management and the administrative processes

Through Discoverer and the Higher Education Data Analyser (HEDA) the University has relatively free access to consolidated HEMIS student and staff data, which is useful for periodic review purposes. The use of the PSP Icon Model, enables the University is able to consider the strategic and financial availability of academic programmes on an annual basis. The benchmark from the model track performance of academic schools in terms of enrolments, pass rates, graduation rates, ensuring academic sustainability. ■

Institutional Operational Plan: 2010

The Institutional Operational Plan: 2010 sets out a number of objectives for the University. The overarching objectives for 2010 to be driven by the Vice-Chancellor and Principal within the confines of the relevant operational plan, was:

- Implementing innovations in stakeholder management.
- Making institutional alignments to the vision and mobilising around the vision, internally as well as externally.
- Devising a programme of resource mobilisation and efficient utilisation, both internally and externally (business and industry, mobilising funds, international foundations, development of strategies to get such bodies/structures on board, etc.).
- Commencing/establishing frameworks and action plans for special projects such as spending on the strategic budget. ■

Council and Senate

Council

In 2010, CUT pursued a number of institutional strategies and objectives. Council attended to and addressed a number of matters of significance for the institution, the most important of which were the following:

- Vision 2020 document and accompanying Strategic Plan 2010-2015 and 2016-2020.
- Internal Audit Charter.
- Institutional Operational Plan: 2010, as well as Institutional Operational Plan: 2011-2013.
- Constitution of the Honorary Awards and Honorary Degrees Committee and the Policy on Honorary Awards and Honorary Degrees.
- Procurement Policy, Investment Policy and a Investment Strategy.
- CUT Admission Policy (2010) and Student Assessment Manual 2011.
- Revised Constitution of the Institutional Forum.
- Selection/Appointment Processes and Executive Talent Use in Strategy.
- Proposal on Projects for the CUT Chancellor (Chancellor's Club), by means of which the Chancellor intends creating more opportunities for third-stream income for CUT.
- CUT revised its Language Policy through an extensive consultation process with all relevant stakeholders, and Council approved the new Language Policy at its meeting in September 2009. Management drafted an Implementation Plan for the policy, which was implemented in January 2010.

Council held a workshop in July 2010 with the specific goal to discuss the King III Report and its implications for higher education in general and for CUT in particular. In addressing the implications of King III for the institution, it was decided that the constitutions of Council and all the standing committees of Council would be revised as part of this exercise.

While 2009 saw the practical completion of middle management restructuring – from Peromnes level 4 (P4) to Peromnes level 7 (P7) – and the launch of work reorganisation at levels P8 to P16, the year 2010 saw the further unfolding of the reorganisation of levels P8 to P16. The reason for reorganisation and not restructuring at these levels is that these are the levels at which operational work occurs and could therefore not be denuded. Notwithstanding, this marked a rigorous process of ensuring that the current positions available would be reformed into function- rather than task-oriented positions and that efficiency would be maintained. Executives would subsequently refine these positions to achieve the intended goals and to ensure capacity for Vision 2020.

The *Planning, Finance and Resources Committee (PFRC)* attended to specific issues in 2010 including the issue of commercial equity, commercialisation and the CUT Services Enterprise Trust, the Operational Plan 2011-2013, the approval of student fees, the collection agreement between CUT and the National Student Financial Aid Scheme (NSFAS), research and research outputs at CUT, approving tenders for DHET 140 infrastructure projects, the headline budget for 2011, and CUT Project 2010 (FIFA).

Due to some technical legalities, those members of Council serving as external experts who had assumed membership in March 2008 resigned voluntarily on 26 November 2010. As a result, the process of reconstituting Council in accordance with the latest CUT Statute, gazetted on 26 July 2010, commenced immediately. This process was set for completion in 21 January 2011. Council thus continued to exist, based on some of the internal members and the ministerial representatives.

Senate

The academic enterprise at CUT constantly strives to fulfil the institution's mission by:

- Using workplace-inspired teaching and learning strategies to deliver high-quality appropriate SET, - which includes Engineering, Information Technology, Health and Environmental Services - Management Sciences and Humanities academic programmes;
- Pursuing applied research and fostering innovation and technology transfer;
- Forging strategic partnerships with various organs of society, including government, business and industry, and engaging with various communities for mutually beneficial development;

- Promoting access with success in attracting potentially successful students and supporting them to become work-ready graduates; and
- Attracting and retaining quality staff and supporting their development and wellbeing.

Given the strategic role of Senate in driving the academic project of CUT, the Senate focus areas for 2010 aimed to do the following:

- Provide a goal-oriented approach to Senate's work;
- Streamline the reporting from faculties to Senate and from Senate to Council; and
- Enable Senate to assess its own achievements at the end of the year.

CUT's School of Government Management - in partnership with Local Government SETA (LGSETA) - provide training and capacity building of officials within the Free State and Northern Cape municipalities.



The focus areas for 2010 were:

- Vocational Pedagogy or the Pedagogy of the World of Work;
- Academic Performance Indicators for Universities of Technology;
- Curriculum Transformation and the Implementation of the Higher Education Qualification Framework (HEQF);
- Regional Innovation System;
- IT and Software Development Programmes;
- Accounting Technician Qualification; and
- Certificate and Diploma Programmes for Municipalities.

Strategies to address the faculties' employment equity profile

The faculties mainly employ the following two strategies to address their employment equity profile (mainly equity in academia):

A "grow-your-own-timber" approach, whereby staff members develop their own developmental plans to facilitate their attainment of higher qualifications and to address areas lacking in skills or knowledge. The faculties support the staff in their quest to successfully follow the development plan, thus allowing them to be promoted to lecturer/senior lecturer/associate professor or professor.

The recruitment plan for vacant posts allows for recruitment as widely as possible and, in the case of scarce skills, would also include headhunting. As part of the procedure, once suitable candidates have been selected, the equity profile of the appropriate faculty (per programme and school) is considered.

The table below gives an indication of the profile changes within the different faculties in 2010, with an accurate breakdown of the additional Faculty of Humanities that was introduced in 2010. ■

PROFILE CHANGE					
	BLACK		WHITE		HEADCOUNT
	FEMALE	MALE	FEMALE	MALE	
Faculty of Engineering and Information Technology					
Bloemfontein Campus	23.8%	60.4%	0.9%	15.0%	3 863
Welkom Campus	37.2%	61.3%	0.4%	1.1%	266
Faculty of Health and Environmental Sciences					
Bloemfontein Campus	40.2%	32.6%	18.8%	8.4%	1 140
Faculty of Humanities					
Bloemfontein Campus	47.2%	42.7%	6.3%	3.8%	1 724
Welkom Campus	58.9%	39.2%	1.1%	0.7%	874
Faculty of Management Sciences					
Bloemfontein Campus	55.7%	34.7%	5.3%	4.4%	3 326
Bloemfontein	56.9%	41.6%	0.6%	0.8%	1 081

PERMANENT INSTRUCTIONAL/RESEARCH (ACADEMIC) STAFF					
	BLACK		WHITE		HEADCOUNT
	FEMALE	MALE	FEMALE	MALE	
Faculty of Engineering and Information Technology					
Headcount	4	29	12	34	79
Percentage	5.2%	36.4%	15.6%	42.9%	100%
Faculty of Health and Environmental Sciences					
Headcount	3	13	18	11	45
Percentage	6.7%	28.9%	40%	24.4%	100%
Faculty of Humanities					
Headcount	11	25	15	13	64
Percentage	10.9%	30.6%	27.5%	31%	100%
Faculty of Management Sciences					
Headcount	10	13	26	23	72
Percentage	13.9%	18.1%	36.1%	31.9%	100%

ACADEMIC PROJECT



Prof. Mark Orkin, STEPS Project consultant, Thandwa Mthembu, Dr. Molapo Qhobela from the Department of Science and Technology, and Charles Nwaila, former Director-General of the Free State Provincial Government, engaging at STEPS Conference in May 2010.

The development of a core curriculum for CUT began in 2010 as part of the activities of the Strategic Transformation of Educational Programmes and Structures (STEPS) project. STEPS have been one of CUT's main focus areas. It started in February 2010 with a knowledge-sharing session, a conference in May, a workshop in August and the month of October saw the documentation of the process as well as Task Teams taking up their positions to design and plan the implementation of specified new curricula and structures at CUT – ensuring we deliver on our core business of teaching, learning, research and innovation.

CUT students graduate with an academic qualification that not only testifies to a combination of theoretical and practical knowledge, but also allows graduates to enter the job market with prior experience in the industry – proof that they are fit for purpose. They have the foundation to be our country's new generation of forward thinkers. We don't merely train students for jobs – we train students to think; to explore beyond the boundaries of today; to innovate; to imagine possibilities; to create; to become agents of social change. CUT metamorphoses learners into leaders; amateurs into authorities; pupils into professionals. ■

Academic Partnerships

CUT remains committed to its core activities of teach and learning, research and community engagement as well as the pursuit of excellence within and across these core activities. Consequently, we strive for continued enhancement of our partnerships and co-operation agreements with government, business and industry. The following two highlights are some of the key partnerships and co-operation agreements for 2010:

Partnership between CUT and National Institute for Higher Education: Northern Cape (NIHE: NC)

CUT and the NIHE: NC signed a working agreement to collaborate on the implementation of the DHET policy on higher education provision in the Northern Cape Province. The actual offering site was successfully moved to the New Park Campus of the NIHE in 2010. To consolidate this collaboration even further, negotiations were held in view of seeing all CUT operations at the New Park Campus site being incorporated into the NIHE: NC in 2010. Since the inception of this partnership, several developments have taken place:

- Physical moving of the CUT office site from Kimberley Technical High School to NIHE's New Park Campus, although the infrastructure still needs attention.
- Blackboard now available for part-time lecturers at NIHE's New Park Campus.

In 2010 CUT offered programmes in the Faculty of Management Sciences to 325 part-time students, while 25 part-time lecturers were employed at the New Park Campus of NIHE.

Partnership between CUT and Local Government Education and Training Authority

Two official partnerships between CUT (School of Government Management) and the Local Government Sector Education and Training Authority (LGSETA), and with the Public Administration Leadership and Management Academy (PALAMA), continued in 2010.

The following highlights are some of the key partnerships and co-operations agreements per faculty for 2010:

Faculty of Engineering and Information Technology

Projects with various partners culminated in a total commercial value of R3 415 394.00 (excl. VAT). They were completed within the Centre for Rapid Prototyping and Manufacturing (CRPM) during 2010.

Co-operations with JCSE, Carnegie Mellon University, and Free State Provincial Government

Three staff members underwent high-level software development training through the Johannesburg Centre for Software Engineering (JCSE) and the Software Engineering Institute (SEI) based at the Carnegie Mellon University in the USA. The Free State Provincial Government entered into an agreement with CUT regarding the establishment of an IT Hub based on a concept paper drawn up by CUT.

Co-operations with Free State Public Works

The Centre for the Built Environment completed the re-training of Free State Public Works employees.

Faculty of Health and Environmental Sciences

Co-operation with Free State Department of Health, and private practices

Co-operation agreements exist between CUT and the Free State Department of Health (FSDoH), as well as between CUT and private practices in Kimberley and Bloemfontein, for the training of Radiography students. The Clinical Technology programme also provided services to the Western Cape Government and the FSDoH. Private practices and state hospital units were represented on the Clinical Technology Advisory Board. Emergency Medical Care (EMC) programme presented a short course in Life Support for the FSDoH. The programme also collaborated with private EMC services.

Faculty of Humanities

Partnership with Free State Department of Education (DoE), and Standard Bank

The School of Teacher Education has strategic partnerships with the Free State DoE and Standard Bank. An annual Winter School (which in 2010 gave rise to a Spring School) aims to help the learners attending better understand subject content and to prepare them for the final Grade 12 examination. The success of this project gave rise to a Spring School in September 2010. The Free State DoE identified “dysfunctional” schools in the district and made it compulsory for learners from these schools to attend. The schools participating noted a vast improvement in the final Grade 12 results in 2010.



A group of learners from Thaba Patchoa Combined School at annual Winter School.

Faculty of Management Sciences

Partnership with Volksblad, First National Bank, PricewaterhouseCoopers and the AHI – BFN

The School of Tourism, Hospitality and Sport ran a successful Free State and Northern Cape Tourism Town-of-the-Year Project in partnership with *Volksblad*, First National Bank, PricewaterhouseCoopers and the AHI-BFN. ■

Academic Development and Support



Prof. Mabokang Monnapula-Mapesela,
Dean: Academic Development and Support

The progress achieved in the various areas of Academic Development and Support (ADS), namely Teaching and Learning, Work Integrated Learning, Careers Office, Research Support, NIHE Coordination, Curriculum Development, E-learning and Educational Technology is highlighted below:

- Training and development of more than 500 academic staff members in various areas of academic development and support.
- Presentation of papers/posters at national and international workshops, seminars and conferences by ADS staff, submission/publication of articles in accredited and non-accredited Journals.
- ADS participated (chairing task teams) in the STEPS Project.
- Conducted 145 student evaluations of teaching and module content and provided academic staff with feedback reports.
- ADS staff are elected on the executive management of external organisations.
- A complete student database was imported into eThuto, and students were activated for its use. More than 350 courses can now be actively accessed by students on eThuto, with another 500 in development.
- Lecture rooms were equipped with the most appropriate audiovisual aids. Approximately 80 % of all lecture rooms have been equipped with data projectors.
- The role of the Careers Office is to equip students with the necessary skills and competencies to successfully compete in

the growing and highly competitive labour market, to connect them with employers in the different sectors of the economy. Career development training focuses on providing labour-related information and job-hunting skills such as job-search techniques, writing a covering letter, compiling a CV, and preparing for an interview. The Careers Office keeps a comprehensive database of students' CVs, which are circulated daily to employers seeking to fill permanent or part-time positions. Several employers make use of this opportunity instead of advertising their vacancies in newspapers or working through personnel agencies. The Careers Office is also involved in the Student Temporary Employment Programme (STEP), through which needy students are appointed to work on campus and gain work experience while earning a small income.

The Academic Language Proficiency (ALP) course, in place since the beginning of the second quarter of 2009 on all campuses, aims to help students develop their reading and writing ability in English to a level that will give them a fair chance of succeeding in their respective studies at the University. The course is compulsory for all first-year students, regardless of their Grade 12 results. The possibility of having ALP as a credit-bearing module is being investigated as part of the ongoing Strategic, Transformation and Educational Programmes and Structure (STEPS) project. In 2010 the programme was facilitated by 37 part-time tutors, and 2 637 students registered for the programme in January 2010.

The following are academic highlights per faculty:

Faculty of Engineering and Information Technology



The Engineering Council of South Africa's (ECSA) visit of 2009 resulted in the accreditation of all Engineering programmes with the exception of Civil Engineering, which in 2009 was given provisional accreditation until 2010, subject to the improvement of the identified deficiencies and concerns.

The follow-up visit for the full accreditation of the Civil Engineering programme was conducted on 19 May 2010. The ECSA team complimented CUT on its drive to recruit new staff for appointment and for recognising the importance of ECSA registration. CUT is now fully accredited.

Other significant developments and achievements in the faculty are:

- The Acting Director: School of Electrical and Computer Systems Engineering, was nominated as a member of ECSA's Technology Programme Accreditation Committee for the period 2010 to 2013.
- A programme head in the School of Information Technology, successfully completed the advanced Personal Software Process (PSP) instructor's training course. Mr Nel is currently one of only five PSP trainers in the country.
- A lecturer in Mechanical Engineering, was invited to showcase his business innovation product at the National Innovation Competition (NIC) exhibition in Durban on 5 August 2010.
- An associate professor in the School of Mechanical Engineering and Applied Mathematics, acted as adjudicator during a session on Applications of Additive Manufacturing in Medicine at the third International Conference on Additive Technologies (ICAT) held in Slovenia from 22 – 24 September 2010.

Faculty of Health and Environmental Sciences



- CUT's Meat Hygiene III students were voted the best in the country by the training service provider; namely, International Meat Quality Assurance Services (IMQAS), after the recent practical assessments.
- The Manager of the Centre for Environmental, Community and Industrial Development (CECID), was invited by the Horticultural Association of South Africa to make a presentation on 18 January 2010 on the role of the South African Council for Natural Scientific Professions (SACNSP) in the Association.

- CUT and partner, the Free State Department of Agriculture (DoA), selected farmers and municipalities in the province to train in various aspects of livestock and crop farming for up-and-coming and redistributed farmers in the Free State.
- A staff member was elected Director of the Southern African Institute for Agricultural Extension and Rural Development, the financial arm of SASAE. He is also Director of the Free State Nguni Trust.
- The Acting Director: School of Health Technology was elected as President of the National Council of SORSA in 2010.
- Extension and training in aspects of waste management are offered to local government in the Free State and neighbouring provinces. CUT's partners are the Free State DoH, Chris Hani District Municipality and Fezile Dhabu District Municipality. Some specific projects are: A bio-gas plant for abattoir waste has been established in Queenstown (Chris Hani), an ongoing recycling and waste management operations in Fezile Dhabu and vermiculture as well as eco gardens are planned for the near future.



Second-year Environmental Health students, visited the Environserv facilities to gain more knowledge about hazardous waste handling and to learn how spills should be treated. Amantle Phonnie, Maleago Seepe, Tshitso Mohatlane and Kgolaetsile Lesetedi observed how to manage a spill.

Faculty of Humanities



- Experts from the Pumani papermaking plant in Gauteng visited the School of Design Technology and Visual Art to assess the papermaking facilities of the Fine Art programme.
- A part-time lecturer in the Photography programme, received two awards from the Professional Photographers of Southern Africa (PPSA) – the first a gold award (first place) in the Fine Art Portfolio category and the second a silver award (second place) in the Fine Art Singles category – in Johannesburg on 8 April 2010.
- A third-year Graphic Design student, was chosen as a finalist in the SABS Design Achievers Awards 2010. Nominees had to use their unique design disciplines to identify a business opportunity, as well as their design expertise to develop an innovative solution.
- A group of second-year Graphic Design students were briefed in April of this year on the real and immediate threat of human trafficking in South Africa, and they began brainstorming ideas on how to create awareness on the subject. The posters were displayed at a conference in Geneva, and both Interpol and the German government requested that CUT share the designs with them.
- Third-year Graphic Design students, were finalists in the design, packaging and special plastic award category of the Gold Pack Awards competition.
- All first-year Photography students and seven senior students formed part of a project funded by the National Heritage Council (NHC). The aim of the project was to promote and create awareness of the Driekopseiland heritage site (Khoisan engravings) between Kimberley and Douglas. The project culminated in a launch and exhibition of the students' photographs and the promotional material at the McGregor Museum in Kimberley on 17 October 2010.



- A lecturer was appointed President of Tourism, Hospitality and Sport Education Providers of South Africa (THEPSA).
- **Training officials of the Free State Department of Education in aspects of Human Resources** with the aim to improve the formal training levels of government employees, eventually resulting in improved qualifications. The course is presented by CUT lecturers and five DoE officials to 126 attendees. The training took place on a block-release basis in Bloemfontein, Welkom, Sasolburg and Phuthaditjhaba.
- **Training in Basic Financial Aspects is offered to municipal employees** according to the Local Government Accounting Certificate developed by the Association of Accounting Technicians (South Africa). CUT's partners are the Mangaung Local Municipality (MLM) and the South African Institute of Chartered Accountants (SAICA).
- **Public Administration and Management Academy Executive Development Programme (EDP)** to provide training to senior managers in the national public service as part of a consortium of training providers. The partners are the Public Administration, Leadership and Management Academy (PALAMA), North-West University (NWU) and Vaal University of Technology (VUT). Training consists of six compulsory modules and four electives and on successful completion; candidates may be admitted to the MTech in Public Administration.
- Supervisory personnel of CENTLEC are offered training in Project Management at CUT.
- **CUT offers training in Integrated Development Planning (IDP)** to municipal managers and officials in the Free State and Northern Cape provinces, with the aim of improving municipal service delivery. Attendees operate at the level of executive mayor, councillors, municipal managers, IDP managers, senior planners, city/district development managers, and provincial IDP co-ordinators. ■

Community Engagement

CUT espouses the three values of higher education, one of which is Community Engagement (CE). CUT envisages the meaningful integration of CE with teaching and learning, as well as research and innovation in a structured environment. The Science Park, together with its Community Engagement Office, is seen as a major vehicle for CE, functioning as a bridge between the expertise inherent in CUT and the community, facilitating the transfer of technology to entrepreneurs, local NGOs and the community at large. At CUT the CE mission is driven through three key values:

- CE must be rolled out via the curriculum – both undergraduate and postgraduate.
- Service Learning and Work Integrated Learning are powerful curriculum strategies to deliver on CE.
- CE projects should be rolled out via a triple-helix approach (university, government, business and industry and) to enrich application opportunities and to benefit social communities (as end users in the triple helix model).

Significant developments and achievements in community engagement

Intense discussions were held with the deans of faculties regarding Community Engagement and the importance of streamlining such projects into the curriculum. Twenty-two projects were registered with the Community Engagement Unit in 2010, and it is encouraging to note that there has been progress in almost all of the projects.

The following projects are listed as significant for 2010:

- **Saturday School:** Extra tuition in Mathematics, Natural Sciences, Life Sciences and English is offered to Grade 11 and 12 learners on Saturdays. Learners from high schools in Bloemfontein, Botshabelo, Thaba 'Nchu, Allanridge, Odendaalrus, Virginia, and Welkom attend the classes, sponsored by ENGEN, DG Murray Trust, Toyota SA, Kwezi V3 Engineers, Carl and Emily Fuchs Foundation, and Interstate Bus Lines. The purpose of these classes is to enable learners to better prepare and to improve their grades for admission to SET-related courses in higher education.
- **Service Learning Module in Web Management and Information Literacy:** REACH, an NGO in the Heidedal community of Bloemfontein, was the recipient's of the training being offered, to its members and others in the community in 2010.
- **Free State and Northern Cape Tourism Town-of-the-Year Competition:** The aim was to contribute to the general neatness and readiness of towns in the provinces for the 2010 Soccer World Cup and beyond.

CUT's School of Tourism, Hospitality and Sport took the initiative to develop criteria according to which towns would be adjudicated.

The winning town received various prizes from multiple partners in the project, namely the tourism associations in the various towns of the Free State and Northern Cape; Volksblad; First National Bank; PricewaterhouseCoopers; and *AHI*. Gariep Dam was the winner of the competition in 2010.

- **Offering of module in Restaurant Service at selected schools in Bloemfontein:** Students in Hospitality Management train learners from selected schools in Bloemfontein in all aspects of waitering which is of great value to the learners. In partnership with Protea Hotels, selected learners who successfully complete the module are given the opportunity to participate in the Protea Hotels in-house training programme to launch their careers in the hospitality industry.

- **Awareness amongst primary schools regarding feeding programmes:** The partners are the Free State DoE and selected schools in Mangaung and the project entails extension and training in primary schools towards the safe and effective implementation of the primary schools nutritional programme.
- **Awareness of hand-washing and basic hygiene to improve food safety:** Hand-washing is important in the preparation of food to avoid contamination and the spread of germs. Training in the Free State Province includes consumers, healthcare facilities, informal vendors, domestic areas and small-scale caterers regarding the basics of personal hygiene and safe food preparation and provision. CUT's partners are the Free State Department of Health (DoH), selected vendors, and formal and informal industry.
- **Dental Assisting:** The Oral Health Section of Motheo District Municipality works hand-in-hand with CUT's School of Health Technology's Dental Assisting programme to provide dental services to mostly disadvantaged children in and around Bloemfontein. Children, caretakers, teachers, students and service learning facilitators benefit immensely from the interaction between the academic programme and the community.
- **HIV and breast-milk project:** This research project investigates the nutritional component of breast-milk in HIV-positive mothers. CUT's partners are the National HIV Council, health clinics and Red Cross community workers.
- **HIV and nutritional supplementation:** This project investigates the effect of a combination of nutritional supplements on the immune and health status of adult HIV-positive patients. CUT's partners are the National HIV Council, health clinics, and Red Cross community workers.



Community Engagement project – Create awareness about Human Trafficking.
 Back row: Liza du Plessis, Cindy van Zadelhoff, Jacques Nell, and Willie Coetzer.
 Front row: Carl Vilorio, Mohapi Khetsi, and Sheldon Venter.

- **Annual Winter School for Grade 12 learners:** The aim is to help the learners to better understand subject content and to prepare them for the final Grade 12 examination. Standard Bank is one of the major sponsors of this project, along with the Free State DoE. The success of this project gave rise to a Spring School in September 2010. The Free State DoE identified “dysfunctional” schools in the district and made it compulsory for learners from these schools to attend. The schools participating noted a vast improvement in the final Grade 12 results in 2010.
- **Affording unqualified teachers the opportunity to earn teaching qualifications (PGCE):** Unqualified teachers in the Eastern Cape DoE appealed to CUT for assistance in earning teaching qualifications. Classes are held on Saturdays.
- **Technology and Innovation:** During the course of 2010, CUT became a member of the Talloires Network, an international organisation of more than 180 universities, all of which have elements of Community Engagement as a formal educational outcome. Ways to maximise potential benefits from this membership, as well as other related developments in inter-institutional networking, were investigated by the Unit for Technology and Innovation – especially with respect to the University’s possible contribution to sustainable socio-economic development.

Work-Integrated Learning (WIL)

This philosophy and approach to education is what makes education at a university of technology different from all other forms of higher education. It offers a holistic approach to education by equipping students not only with the necessary theoretical background, but also with the opportunity to apply the theoretical concepts in practice. This component is

undertaken after completion of the theoretical component of a learning programme, or at an appropriate time depending on the structure and requirements of each learning programme.

The Work-Integrated Learning Office plays an important role in negotiating placements with employers on behalf of the students and consequently monitoring their progress in the workplace.

In the Faculty of Management Sciences 664 students were placed. The learning programmes in Marketing, Office Management and Technology, Financial Information Systems, Tourism Management, Hospitality Management and Sport Management all include WIL. In the Faculty of Humanities 1647 students were placed in all the Teacher Education programmes. In the Faculty of Health and Environmental Sciences 365 students were placed. Students in Biomedical Technology, Clinical Technology and Radiography can complete their WIL at accredited laboratories whilst students in Emergency Medical Care, Dental Assisting, Agricultural Management, Environmental Health, Fire Technology and Somatology are also placed for WIL. All the Engineering programmes in the Faculty of Engineering and Information Technology have a WIL component, a total of 671 students were placed by the WIL Office. ■



As part of their WIL, Radiography third-year students interacted with the community by visiting high schools in the Bloemfontein area, informing Grade 12 learners about the availability of medical imaging services in the region, as well as examinations like mammography, obstetric ultrasound and bone densitometry.

Research Development and Innovation



Prof. Laetus Lategan,
Dean: Research and Innovation

In 2010, CUT's four faculties (Faculty of Engineering and Information Technology, Faculty of Health and Environmental Sciences, Faculty of Humanities and Faculty of Management Sciences) committed themselves to a number of research outputs in order to grow their research basis. The committed outputs are based on the faculties' capacity to address the

growth in their research outputs over the next three years. The strategies identified are directed at building a sustained research culture associated with the expected normative research outputs and impact.

CUT's Research and Development Plan (2005 – 2010) emphasises three key areas for research and research development:

- Development of a sustained research culture.
- Improvement of research outputs.
- Development of strategic research partners and programmes.

This plan is an institutional research plan to which various role players make a contribution. The faculties are responsible for the research outputs, whilst the Office for Research and Innovation plays a supportive role in these initiatives. The following table depicts the objectives of the plan as well as the overall performance measured against the Research and Development Plan:

OBJECTIVE		OVERALL PERFORMANCE
1	Developing staff and student researchers.	Four workshops were identified for 2010, with the themes being the research process, supervision, critical thinking skills and research integrity.
2	Improving postgraduate retention and throughput.	Twenty-eight master's degrees and six doctoral degrees awarded.
3	Increasing accredited publications.	Currently 45 papers, two books, three book chapters and three conference proceedings available to be submitted for research subsidy.
4	Securing accreditation for the Journal for New Generation Sciences.	Three editions instead of the normal two. Almost 100% increase in the number of papers published.
5	Sustaining existing externally funded research projects.	An amount of R5 429 232 in external funding available during 2010.
6	Ongoing development of new SET research niche areas.	Development of new programmes in renewable energy, water resources and systems, biotechnology, agriculture, leisure management, knowledge management and research education. Twenty-five applications submitted to NRF (Thuthuka and IRDP). More than 20% increase in submissions since 2009. One application submitted to MRC and SANPAD each.
7	Developing and sustaining partnerships with public and private funding agencies and regional, national and international universities.	Collaboration with SU, UCT, CPUT, UFS, TUT, NMMU. Projects on food security and safety, machine vision, research education and medical product development. CUT partners with UFS in Medical Ethical Committee. Preliminary discussions with UFS on collaboration in Animal Ethics Committee. Collaborations with international universities, namely Aalen, Ulm and Charité (Germany), Loughborough and Wales (UK), IUPUI (USA), Kigali Institute of Science and Technology (Rwanda) and Chinhoyi University of Applied Science (Zimbabwe), on projects relating to food safety and security, machine vision, management, research education and medical product development. A paper on research activities at CUT was read at Aalen University, on their invitation. Fulbright Scholarship to Indiana University-Purdue University Indianapolis (IUPUI) awarded to Prof. Hesta Friedrich-Nel.
8	Developing and sustaining partnerships with business and industry.	CUT is an active partner in the South African Research Managers' Association (SARIMA) and an Executive Board member of SARIMA. CUT staff member chairs South African Technology Network (SATN) Research, Transfer and Innovation Committee. CUT is an active partner in NRF activities (CUT presented during the third PhD Colloquium and led a workshop on Equipment Funding on behalf of NRF). CUT is part of the Talloires Network. CUT partners with SATN to submit applications to the Erasmus Mundus Programme. The establishment of a Tooling Incubator was successfully facilitated. National Medical Platform Device awarded. Four current innovation support centres, i.e. Product Development Technology Station (PDTS), Centre for Rapid Prototyping and Manufacturing (CRPM), Seda Agricultural and Mining Tooling Incubator (SAMTI) and National Medical Device Innovation Platform (NMDIP). Two projects funded by Advanced Manufacturing Technology Strategy (AMTS) and one by Light Metals Development Network (LMDN).
9	Increasing income through research projects.	External funding to the value of R5 429 232 was available during 2010.
10	Developing postdoctoral research fellows as future research fellows of CUT.	Two postdoctoral fellows who completed their programmes have been appointed as researchers.
11	Marketing CUT as regional leader in SET research.	All research projects have a regional focus and the intention to promote sustainable socio-economic development.
12	Developing opportunities to read papers at national and international conferences.	International: 42 papers and posters presented. National: 76 papers and posters presented.
13	Measuring the impact of the research.	Seven rated researchers, books published by international and national publication houses, articles in journals accredited by DHET and ISI, and one patent.

Given the fairly recent history of the research culture in the former technikons and currently universities of technology, the greatest need is in the area of growing and creating a larger pool of researchers from postgraduate students, postdoctoral fellows and the academic staff at large, which can sustain the identified research programmes of CUT. Postgraduate student completion rates and published research articles based on the completed studies will grow the research outputs to the desired norm within the next three to five years.

A number of core values inform research at CUT:

- SET and the management of SET research.
- Applied research informed by business and industry problems.
- Partnerships with government, business and industry ("triple-helix").
- Knowledge production in the context of Mode-2 Knowledge Generation.
- Scholarship in teaching and research.
- Research projects leading to SET qualifications.
- Income generation through research.
- Entrepreneurship through innovation.

Two key highlights in the research arena are:

FabLab projects

Solar-powered water heater: The design and development of a solar-powered water heater for domestic use is being funded as a major project by the Technology Innovation Agency (TIA). The mould is currently being refined by the manufacturers following the moulding of two experimental heaters. Comprehensive testing in view of possible manufacture will follow.

Low cost hearing aid: The FabLab collaborated with PDTS in the development of a prototype hearing aid. The electronic circuit was designed and manufactured in the FabLab whilst the CRPM produced the customised enclosure for the device. The objective of the client was to develop a low-cost hearing aid.

CUT's NMDIP research team, comprising of Dr Kobus van der Walt, Mr Gerrie Booysen, Profs. Michele Truscott and Jorrie Jordaan.



Innovation Systems: National Medical Device Innovation Platform (NMDIP)

Interaction with the Medical Research Council through the NMDIP created opportunities for closer co-operation especially with Stellenbosch University on the development of medical products. Several staff members from other South African universities, as well as representatives of the manufacturing industry, visited the facilities during the course of the year.

Research clusters and programmes

CUT has identified 10 strategic SET research programmes (focus programmes) that can be clustered into three focus areas. Some of these programmes have already secured external funding and have identified initiatives to be sustained within the next three years. Benchmarks for a focus programmes are the number of postgraduate students and postdoctoral fellows, the amount of external funding, as well as the number of active researchers, rated researchers and research publications (books, articles, published conference proceedings and reports). These research programmes and their focus areas are as follows:

Research Focus	Research Programmes
Industrial design, communication and development	<ul style="list-style-type: none"> ▪ New product development and design. ▪ Automated material handling and radio frequency identification. ▪ Hydro-informatics ▪ Information and Communication Technology
Quality of health and living	<ul style="list-style-type: none"> ▪ Applied food safety and biotechnology ▪ Bio-environmental studies ▪ Applied health technology
People and skills development	<ul style="list-style-type: none"> ▪ Socio-economic development studies ▪ Education (sub-themes: medical education, general education, service learning, technical and technological education) ▪ Research education

CUT research grants

A valuable support system for staff and postgraduate students is CUT's system of awarding research grants. The purpose of these grants is to create a research culture, to empower staff and students to be engaged in research and to address equity in research. Ten categories of bursaries are awarded:

- Full-time postgraduate students
- Part-time postgraduate students
- Staff studying for a postgraduate qualification at CUT
- Postdoctoral fellows
- Research fellows/associates
- Project costs
- Top-up funding for external research projects
- Seed money for a research activity to be developed into a niche area
- Research assistance related to the development of an activity into a niche area
- Development of externally funded projects

Summary of research achievements during 2010

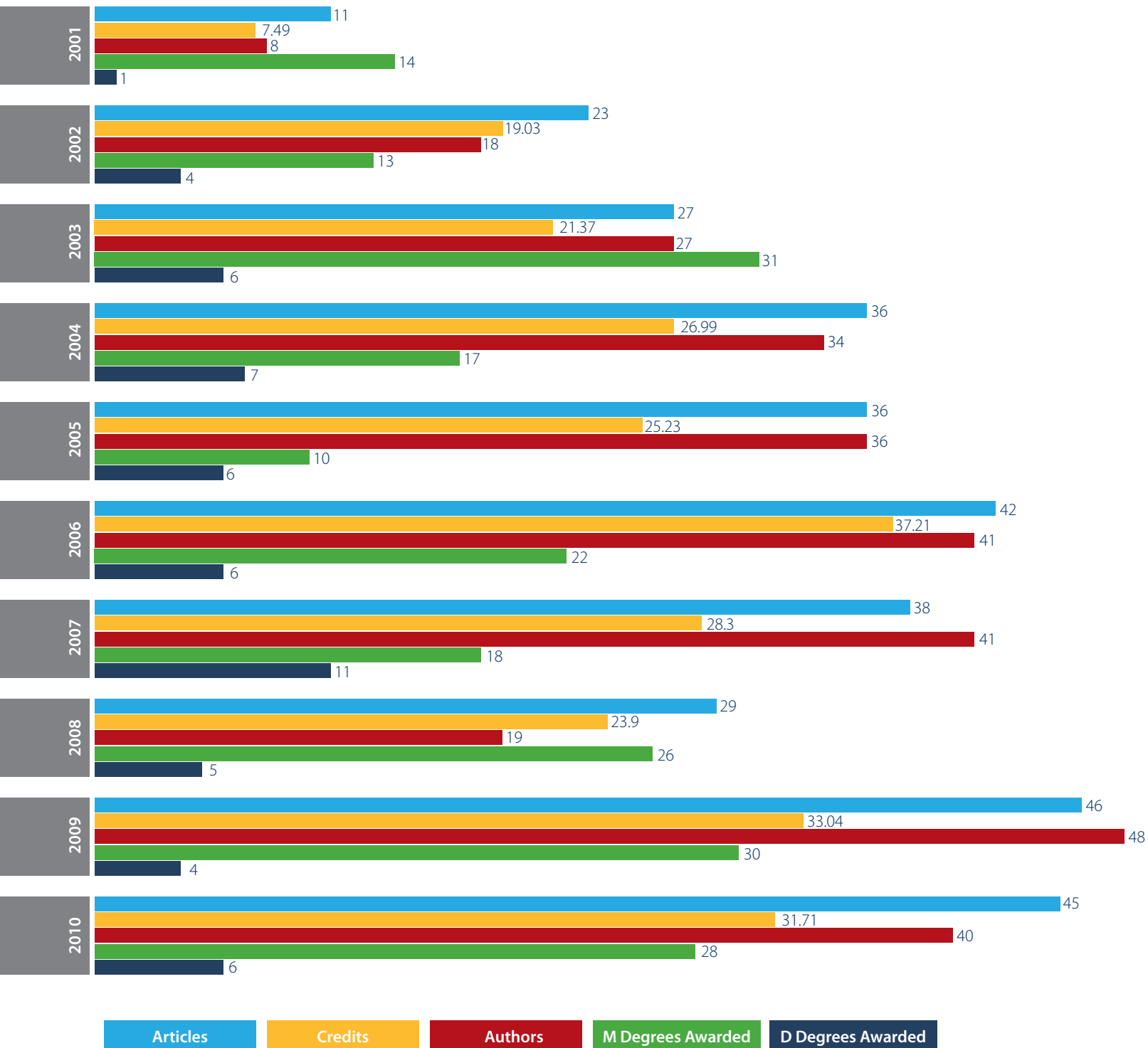
The performance in 2010 can be assessed against the performance during 2009 as indicated in table below.

Research performance, 2009 and 2010

Outputs	Committed 2009	Achievements in 2009	Committed for 2010	Achievements in 2010	Target reached
Accredited articles	33	46	52	45	87%
Papers read at South African conferences	41	87	60	76	>100%
Papers read at international conferences	36	37	45	41	91%
Completed master's degrees	18	30	33	28	85%
Completed doctoral degrees	2	4	7	6	86%
Full-time researchers	7	7	10	10	100%
Postdoctoral fellows	2	2	6	3	50%
Amount of external Funding	R 3.95m	R 4.65m	R 4.95m	R 5.42m	>100%

If the 2010 outputs are assessed against the overall research performance of CUT over the past ten years (2001-2010), it is palpable that the research culture that was established is now in the process of development. The performance over ten years will serve as a platform to support initiatives to meet the expected research outputs within the next three to five years.

Research performance at CUT: 2001 to 2010



Articles

Credits

Authors

M Degrees Awarded

D Degrees Awarded

The growth in numbers shows that positive progress is being made with regard to the research performance during the last 10 years.

It should be noted that research articles and completed degrees signal the sustainability of the research culture. For example, there was a substantial growth in the number of articles produced in 2009 compared to 2008, along with a steady growth in the number of credit outputs. The slight decline in master's degrees is due to new students who enrolled in previous years and who are still to finalise their studies. The faculties identified various initiatives to address the completion rates of master's and doctoral degrees in 2011. The ongoing completion of doctoral degrees is an indication of the competency the University has to deliver at this programme level.

Since 2001, a total of 209 master's and 56 doctoral degrees have been awarded, the following should be mentioned:

- **Firstly**, the research topics express industry/business relevance (fitness for purpose).
- **Secondly**, the research topics in (especially) education address regional needs (which are not removed from the national agenda).
- **Thirdly**, academic development is shaped through the development of supervisory skills. The major challenges that exist are in the process of being addressed. Research has shown that factors such as a lack of money, facilities and support for research projects, etc. contribute towards the delay in the completion of studies.

A research culture progresses through growth in the scholarly community. The dynamics of this process are that a scholarly community affects a research culture, and a research culture attracts scholars. It should be emphasised that both staff and students learn from this experience. A relatively young research staff component still needs to master the challenges of postgraduate supervision, whilst supervisors and students still need to curve technological science, which is the mission differentiation of the universities of technology. This is the dynamism evident in the research culture currently in progress.

Completed master's and doctoral degrees studies

During the March and September 2010 graduation ceremonies, 28 Master's and six Doctoral degrees were conferred, 85% of graduates committed graduated in 2010.



In September 2010, CUT awarded 5 doctoral degrees, and they were all women. Drs Tania Venter, Esmé-Joan Redpath, Wendy Setlalentso and Dédé Olivier. Dr Martie De Wel's doctorate was awarded in absentia.

Master's	Year of Award	Degrees awarded
	2001	14
	2002	13
	2003	31
	2004	17
	2005	10
	2006	22
	2007	18
	2008	26
	2009	30
	2010	28

Doctor's	Year of Award	Degrees awarded
	2001	1
	2002	4
	2003	6
	2004	7
	2005	6
	2006	6
	2007	11
	2008	5
	2009	4
	2010	6

Research Grant Awards Fund

In 2001, CUT established the Innovation Fund in support of research development, which in 2007 underwent a name change to become the Research Grant Awards Fund. The Awards Policy was approved by all structures and is being implemented accordingly in three broad categories, namely (a) the development of core research competencies (through student training), (b) research infrastructure and consumables, and (c) research development and support. A return on investment (ROI) is evident through the large pool of students being trained and the table below reflects these awards during 2010.

Total Research and Development Grant Awards in 2010

Category	Number of people supported	Total awarded
Master's Degree Awards	37	R838 725
Doctoral Degree Awards	7	R183 010
Postdoctoral Fellows	2	R237 666
Specialised Equipment	1	R261 375
Staff Projects	2	R103 609
Supplementation: Thuthuka	9	R396 000
Supplementation: IRDP	9	R416 666
Supplementation: Incentive Funding for Rated Researchers	7	R188 000
Total		R2 333 442

Annual progress reports suggest that the majority of student grant-holders will complete their studies within the next three years (2011 - 2012). The research process at CUT can be administratively divided into five phases:

Proposal-writing

Research orientation (literature review, ethical protocols, etc.)

Fieldwork (primarily of a quantitative and empirical nature)

Writing up of research results and conclusions

Summative assessment

The majority of grant-holders are in phase two of the project.

Research journals at CUT

An important mechanism to increase the number of accredited publications is to develop basic scientific writing skills, which is primarily done through CUT's in-house research journal, *Interim* (ISSN 1648-498X), which has been published twice annually since the end of 2002. The goal of the journal is to afford novice researchers the opportunity to publish their research, and to allow established researchers to publish work in progress. These articles are all peer-reviewed to expose researchers to this process. An in-house peer review approach is followed, with the main emphasis on improving the quality of the article, building self-confidence in the art of publication writing, and mastering the necessary skills and techniques in that regard

Another journal at CUT is the interdisciplinary journal called the Journal for New Generation Sciences. The journal is published twice a year and as an accredited research publication (ISSN 1684-4998) open to scholars external to CUT. The table below reports on the progress made thus far with publications in *Interim*, up until the second edition of 2010 (Vol. 9, No. 2):

Category	Numbers
Number of editions	16
Number of authors	315
Number of papers	180
Number of student contributions	35
Number of external research partners co-authoring articles	41
Number of published papers in accredited journals	31

Closer analysis of this data reveals that fifteen editions of *Interim* in eight years are sufficient evidence that this model is in high demand and that staff, students and external research partners are eager to participate in this initiative. From the total number of 315 authors, about 11 % were students and 13 % were external research partners. This is interpreted as a positive association with the University's research and the capacity development driven by this journal.

Research conferences

During 2010, 42 researchers were provided with support that enabled them to attend international conferences in order to read their papers and/or to study research trends in their particular fields of study. In 2010 some of these papers were already placed in the public domain, via conference proceedings, books or journals. The strategy in 2011 is to rework all conference papers into publishable articles in accredited journals. It should also be noted that publications are not the only desired outcome of conference attendance. Other outcomes include platforms to share research results, to study international research trends, and to create partnerships. ■



Teaching and Learning Activities

The Teaching and Learning section contains relevant statistics, referring to and containing information on the student headcounts in 2010, and details on CUT student performance. The information presented for groups defined in terms of Higher Education Management Information Systems (HEMIS).

The following table represents student headcount data for 2010

Post- and Undergraduate Enrolments, Graduates, and Graduation rate by major fields of study.

Main study area	Post-/Under-graduate	2009			2010		
		Head-count	Graduates	Graduation rate	Head-count	Graduates	Graduation rate
BUSINESS/ MANAGEMENT	Occasional				1	0	0.0%
	Postgraduate	21	2	9.5%	41	2	4.9%
	Undergraduate	3 403	727	21.4%	3 737	824	22.0%
BUSINESS/ MANAGEMENT Total		3 424	729	21.3%	3 779	826	21.9%
EDUCATION	Postgraduate	351	177	50.4%	364	182	50.1%
	Undergraduate	708	155	21.9%	1 467	141	9.6%
EDUCATION Total		1 060	332	31.4%	1 831	323	17.6%
OTHER HUMANITIES	Postgraduate	30	6	20.1%	27	1	3.7%
	Undergraduate	1 855	375	20.2%	1 567	308	19.7%
OTHER HUMANITIES Total		1 885	381	20.2%	1 594	309	19.4%
SCIENCE/ ENGINEERING TECHNOLOGY (SET)	Postgraduate	139	28	20.2%	123	14	11.4%
	Undergraduate	5 698	900	15.8%	5 257	941	17.9%
SET Total		5 837	928	15.9%	5 378	955	17.7%
Grand Total		12 205	2 370	19.4%	12 583	2 412	19.2%

The notable changes in the table above are in Business and Management Sciences, where the postgraduate student cohort size doubled, but the undergraduate graduation rates improved slightly. Both the undergraduate and postgraduate student cohorts in Education increased in size; the number of postgraduates increased slightly, but the number of undergraduates nearly doubled. This large discrepancy led to an apparent drop in graduation rates. In Other Humanities, the postgraduate student cohort was four times larger than in 2009. The overall graduation rate in this category dropped from 25.2 % in 2008 to 19.9 % in 2009, and a fraction further in 2010. In SET, both the undergraduate and postgraduate student cohorts decreased in size. The overall graduation rate in this category improved by 2 %, which is highly encouraging in the science fields.

For the University as a whole, the total graduation rate declined by 0.4 %, partly due to enrolments beyond the targets (discrepancy much greater, graduate numbers slightly lower).

The following table represents student headcount by race

Main study area	African			Coloured			Indian			White		
	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
BUSINESS/ MANAGEMENT	31.4%	29.7%	31.5%	34.2%	29.1%	28.7%	21.0%	23.2%	23.7%	21.8%	17.0%	19.8%
EDUCATION	9.1%	9.8%	16.4%	3.9%	4.0%	10.6%	5.6%	1.8%	6.1%	3.0%	3.1%	2.9%
OTHER HUMANITIES	13.7%	15.2%	12.2%	20.2%	22.4%	19.0%	10.8%	16.1%	12.9%	8.7%	14.7%	13.9%
SCIENCE/ ENGINEERING TECHNOLOGY (SET)	45.7%	45.2%	39.9%	41.7%	44.6%	41.7%	62.6%	58.9%	57.2%	66.6%	65.1%	63.4%
Grand total in numbers	8 830	10 129	10 591	389	457	482	31	41	38	1 644	1 578	1 471

The table above gives the success or pass rates by major field of study sorted according race. The following observations are noteworthy, the overall success rate of the African student cohort increased across most fields of study and the overall success rate of the Coloured student cohort also rose by 1.2%.

The success rate of the Indian student cohort declined, with only Other Humanities showing an increase and the success rate of the White student cohort rose by half a percent, with the most significant individual increase being in Education, but SET rates remained the same between 2009 and 2010.

Student performance across the broad fields of study, by gender.

Main study area		2009		Total	2010		Total
		Female	Male		Female	Male	
BUSINESS/ MANAGEMENT	FTE	1 370	953	2 324	1 414	919	2 333
	Success Rate	70.6%	66.6%	68.9%	72.2%	67.4%	70.3%
EDUCATION	FTE	410	366	775	890	769	1 659
	Success Rate	78.9%	78.7%	78.8%	78.4%	76.1%	77.3%
OTHER HUMANITIES	FTE	1 270	850	2 120	1 130	697	1 827
	Success Rate	76.2%	71.4%	74.3%	79.6%	75.6%	78.0%
SCIENCE/ ENGINEERING TECHNOLOGY (SET)	FTE	1 765	2 714	4 479	1 512	2 535	4 047
	Success Rate	75.7%	70.1%	72.3%	77.5%	68.6%	71.9%
Total FTE Enrolments		4 815	4 883	9 697	4 945	4 920	9 866
Total Degree Credit Success Rate		74.6%	70.3%	72.4%	76.6%	70.6%	73.6%

In the annual changes in student performance across the broad fields of study, by gender the following observations are noteworthy, on the whole, the University's overall success or pass rate increased from 72.4 % in 2009 to 73.6 % in 2010. A difference of about 5 % in the success rate, favouring females, appeared all round. The pass rate is calculated by dividing the Full-Time Equivalent (FTE) degree credits with the FTE enrolments.

In SET, there was also a year-to-year decline in success rate. In this instance, the decline amongst males was noticeably higher. ■

CUT Pass (Success Rate) (FTE degree credits/FTE enrolled)

Year	Rate
2010	73.6%
2009	72.37%
2008	74.54%
2007	74.75%
2006	73.48%
2005	74.16%

INSTITUTIONAL ADVANCEMENT

Bloemfontein Campus houses a full array of modern buildings with well-equipped laboratories and lecturing venues. The campus has extensive Library and Information Services, while the Lapeng Student Centre is a vibrant venue hosting a wide variety of student activities and services. Excellent sporting facilities on campus cater for the needs of sport enthusiasts, who can choose from a host of formally organised sport codes, ranging from athletics, soccer, rugby and cricket, to basketball, volleyball and netball.

Facilities and Major Capital Projects

Since the University's incorporation of Welkom Campus in 2004, particular attention has been paid to the development of its academic infrastructure and the Programme Qualification Mix (PQM). The campus also boasts state-of-the-art Library and Information Services and well-equipped lecturing venues. Some sporting facilities, including a soccer field and tennis courts, have also been built. The Student Academic and Teacher Education building was under construction during 2010, on schedule for completion in the first quarter of 2011. This building will accommodate the UoT type programmes that are gradually being phased in at the campus.

Infrastructure and facilities management is progressing well and CUT is one of the best-maintained universities in the country. There are currently six construction projects underway on the Bloemfontein and Welkom campuses, as reported in 2009. The projects, which are at different stages of development, are:

- Student Academic Support Centre at Bloemfontein campus
- Extension to the BHP Billiton Engineering Building
- Teachers' Education Complex
- Extension to the Dirk Coetzee Building (Health and Environmental Sciences) on the Bloemfontein Campus.
- The two projects on the Welkom Campus are the Teacher Education and Student Academic Support Building and the Lecture Hall Complex.



Student Academic
Support Centre at
Bloemfontein Campus
in July 2010.



Student Academic
Support centre
at Bloemfontein
Campus in October
2010.

As part of the implementation of the approved Master Plans for both campuses, several projects to improve security and pedestrian safety were completed during 2010. These include the upgrading of the old wire fencing around the Bloemfontein Campus with a new devil's fork fence, and the upgrading of the traffic circle in front of the Artec Hall, which commenced in 2009 and was completed in early 2010. A wall was also constructed around Tokkiepark, CUT's main sports facility.

A number of smaller capital projects were completed in order to facilitate CUT's teaching and learning initiatives, namely:

- Water laboratory project to provide office space for academic staff.
- Reconfiguration of second-floor space in the BHP Billiton Engineering Building to make space for more lecturers.
- Creation of offices for the Dean: Faculty of Humanities in the Humanitas Building.
- Conversion of existing offices in the Humanitas Building into office space for more lecturers.
- Radiation testing in the Library and Information Services Building. ■

Special Events

The following were the major highlights of CUT's 2010 events programme:

Annual prestige lecture

Judge ZM Yacoob delivered the annual prestige lecture on 22 July 2010 on the following topic: *Adding Value to our Democracy*.

The Honourable Justice
Zakeria Yacoob,
Constitutional Court Judge.



CUT Chancellor Inauguration

One of the significant developments at CUT was the inauguration of the Chancellor, Dr Boet Troskie on 16 April 2010.

The following are broader institutional and faculty-based events:

- **Aha Bokamoso (Build the future) – Joining minds for skills development**

CUT hosted the launch of various partnership projects with the Free State Provincial Government (FSPG) on 13 February 2010. The projects are the Information Technology (IT) Hub, Saturday School Project, Human Resource (HR) Training Programme and the Regional Innovation Centre (RIC).



Mr Tate Makgoe, MEC for Education, Prof. Mthembu, Mr Thabo Manqoni, MEC, Free State Department of Police, Roads and Transport.

- **Strategic Transformation of Educational Programmes and Structures (STEPS) Conference**

STEPS process entails the revision of the instructional programmes offered to ensure that they are delivered on the basis of the core business of teaching and learning, as well as research and innovation and community engagement. The STEPS Conference was held on 13 and 14 May 2010 while the Workshop was on 2 and 3 August 2010.

- **AAT(SA) Launch**

CUT, in partnership with the South African Institute for Chartered Accountants (SAICA) and the Association of Accounting Technicians in South Africa AAT(SA), launched the AAT(SA) qualification on 11 May 2010.

- **FIFA World Cup Training Venue**

CUT was the only official FIFA-approved World Cup training venue in Bloemfontein on 11 June to 11 July 2010.



Exchange students celebrated the World Cup in Bloemfontein. The group of students were from Germany, Rwanda, Netherlands and Belgium and supported their respective teams and became South African supporters during their stay in our beautiful country.

- **Guest lecture series**

As part of CUT's initiative to encourage critical discourse, the university presented seven public lectures to support an institutional culture of dialogue and diversity.

- **2nd National Entrepreneurship Conference**

The School of Entrepreneurship and Business Development presented its second National Entrepreneurship Conference on 24 and 25 August 2010. The theme of the conference was "The development of entrepreneurial skills on higher education level. ■



University Life

The Student Services Section continues to provide quality services to students through various activities on both the Bloemfontein and Welkom campuses. These services were rendered through the following Student Services operational units: Governance and Student Life, Residences, Wellness Centre, and Operational Sport.

Leadership Training and Development

Two highlights in leadership training of students during the year were:

- An induction workshop was held on 19 March 2010 for all affiliated student organisations, during which student leaders were exposed to institutional policies and procedures relevant to student-based activities; and
- The *Speculum* student newspaper editorial team (mainly Language Practice students) attended an editorial training workshop facilitated by a Media24 consultant on 05 March 2010.

Student governance

The SRC elections for 2010/2011 were held on 25 August 2010 at two voting stations, directly followed by the counting of votes. The voting percentage for the Bloemfontein Campus was 25% ($\pm 2\%$ increase) and for the Welkom Campus 50% ($\pm 11\%$ increase). The elections were for the second time conducted by the Independent Electoral Commission's Free State Provincial Office and were duly declared free and fair by the IEC. No parties involved in CUT's SRC elections raised any form of complaint.

Extracurricular activities

Extraordinary achievements in the area of extracurricular activities by CUT students in 2010 are:

- The CUT Choir competed in several scheduled activities at local, regional and national level. They received a number of awards and trophies for their achievements and also achieved fourth place in the Old Mutual National Choir Festival. The Choir is steadily growing into one of CUT's most successful icons.
- In the area of Recreational Sport, several activities like beach volleyball, wall and mountain climbing, hiking, informal sport leagues and fun days were organised for those students not participating in formal sport codes. Sports equipment is supplied to different student organisations and campus-based sporting leagues.

- CUT's Dance club participated in the Latin-American and ballroom category of several national and provincial competitions, and achieved first, second and third positions in various competitions. The FEDANSA National Competition was held on 20 and 21 August 2010 at the Boet Troskie Hall on CUT's Bloemfontein Campus.
- The Debate Union hosted the fourth annual provincial debating tournament on 30 April 2010, with participants from CUT's Welkom Campus, the University of the Free State, NIHE: (NC) and Walter Sisulu University. They also organised the Free State High-School Debating Tournament, and three of those teams managed to reach the semi-finals of the national tournament held from 08 to 15 July 2010 at the Nelson Mandela Metropolitan University. Debate team members had the opportunity to attend the Pan-African Universities Debating Championships held at the University of Namibia in December 2010.
- The Drama Society and Dance Factory Associations staged performances sensitising high-school learners in the Free State to the scourge of crime and HIV/AIDS, in collaboration with the office of the National Prosecuting Authority of South Africa.

Residence Life

Three men's residences and three ladies' residences provided accommodation to 726 students in a clean and safe environment conducive to learning. There was 100% occupancy in the residences in 2010.

The Residence Unit introduced a mentorship programme with the aim of assisting first-year students residing in residences who might be encountering problems with certain subjects. The programme was setup to unfold as a pilot programme in the residences, and would in future be rolled out to the entire University. In 2010, the award for best academic performing residence was won by Welgemoed.



Operational Sport

Operational Sport offered a wide variety of sport codes to CUT students in 2010. League matches in soccer, rugby, athletics, basketball, volleyball, cricket, hockey, tennis, table tennis, karate, golf and netball took place throughout the year.

Coaching clinics in hockey and cricket for disadvantaged learners were organised by CUT's cricket and hockey clubs in collaboration with Free State Cricket and SA Hockey respectively.

CUT's sports facilities were also made available to the community, including some schools, for practices and matches:

- Cheetahs Super-15 team
- Development cricket teams for u/13 and u/15 players
- Hockey clinics for disadvantaged schools
- Chevrolet Knights cricket team
- Warwickshire (England) cricket team
- Bafana Bafana soccer team
- Kaizer Chiefs soccer team
- Sand du Plessis High School rugby team
- HTS Louis Botha soccer team
- FIFA World Cup Training Venue
- Free State summer hockey league
- Lesotho netball team
- MTN National Soccer Tournament
- SAFA level-one coaching course
- MACUFE
- Bloemfontein Celtic soccer team
- Roseview Primary School
- Eunice hockey clinic
- Free State Sport Science Institute, for netball, cricket, rugby, tennis and hockey
- SA schools and Free State schools cricket tournaments

Operational Sport placed Sport Management students at schools and clubs to fulfil their WIL requirements by means of coaching and organising duties.

Wellness Centre

Reading Development and Academic Study Courses

Many students struggle with the volume of academic reading work. Courses to improve not only their reading rate, but also their comprehension and retention of information are presented. The Reading Development programme is structured in the academic timetable via the academic departmental heads and the Wellness Centre and the course is compulsory for all first-year students. Approximately 2 400 students were accommodated in 2010. Students could also complete study programmes to improve their memory and retrieval strategies. Courses in study techniques, stress management, self-actualisation and communication skills further contributed to the establishment of a learning-centred approach to education at CUT.



CUT's students, staff and executive team during the Scrutinize Campaign. They took part in voluntary testing.

Student Counselling

The Wellness Centre rendered a wide variety of services for the emotional and social wellbeing of students. Since a number of students come from difficult backgrounds, various lifestyle programmes were offered to these students in their residences (even after hours). Centre focuses on student support from a holistic wellness perspective, following an approach whereby the main areas of wellness, i.e. physical, social, mental, emotional and spiritual, are all addressed via individual support or group sessions. Support is given to students on an individual level, with psychological and therapeutic interventions.

In the year under review, a number of group sessions and workshops were offered in areas where numerous students reported the same problems. Since it is clear from the relevant literature that emotional and social problems can prevent learners and students from achieving their full potential, various life skills programmes were offered in the residences and to groups after hours. The table below reflects the types of services offered to students, as well as the number of students supported via certain actions:

Services offered to students in 2010

SERVICE	NUMBER OF STUDENTS
WASB Week	8 000
Study Skills	704
Other Workshops (Life Skills)	1 159
Emotional Support	589
Social Support	137
Academic Appeals	261
VCCT Weeks	4 790
Risk Subjects	315

The Centre therefore gave special attention to assisting students with emotional and adjustment problems.

Supplemental Instruction (SI)

The purpose of the SI programme is to assist students in those subjects with a high degree of difficulty, thereby improving student performance and retention. Through this programme, a senior student who has demonstrated proficiency in a targeted course undergoes SI training and then attends a course on how to encourage effective student practices and attitudes amongst others. The objectives of the programme are to improve the student throughput rate, to establish a culture of study at the University, to encourage students to ask questions and formulate answers, to assist students in their mode of learning, and to link study skills with subject content.

The programme has expanded significantly over the years, and in 2010 SI was in effect in 80 subjects (66 first-year, 12 second-year and two third-year subjects), with 104 scheduled SI sessions per week. This programme is closely monitored and regular feedback is given to the relevant lecturers.

Staff Wellness

The Wellness Centre also offers wellness services to CUT staff members. The wellbeing of staff is vital, as they are the individuals responsible for the education and support of our students. Therefore, in 2010, CUT provided its staff with various opportunities to undergo basic health screenings to determine their physical wellbeing and, if necessary, provided them with relevant referrals or specific information on health topics.

Medical Services

Physical wellbeing always forms the basis of wellness. To assist our students in managing their physical wellness, CUT is in the final process of registering a private healthcare clinic. This will afford students and employees the opportunity to receive a full range of primary healthcare services on campus. The clinic is already serviced by a registered medical doctor and a full-time professional nurse who provide critical services on a day-to-day basis. ■



FINANCIAL HEALTH OF THE UNIVERSITY

During 2010, the University managed to operate within the expenditure guidelines set by CUT's Council. As a result, CUT has been able to accumulate R76.040 million to be reinvested in other items of expenditure, for instance in the academic sector.

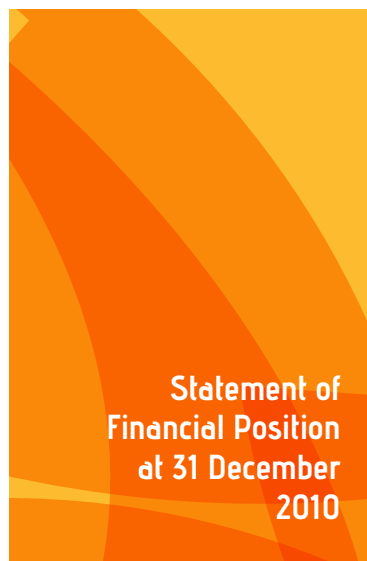
The cost of the salary bill has been a concern for several years. The restructuring of middle management, which took place in 2009, was intended to address this by having a positive impact on the salary budget. The budget proportion for salaries was reduced from 64.50% in 2009 to 61.74% on 2010. The restructuring of all other staff levels will be finalised in the course of 2011 when all savings brought about by the restructuring will be realised.

For 2010 the University was thus able to generate a surplus of R76.040 million (2009: R49.806 million) due mainly to savings on operating expenses and investment returns of R26.442 million.

Long-term investments grew by R20.751 million to R163.329 million, while cash and cash equivalents grew by R14.476 million to R224.281 million for the year ending 31 December 2010.

The net asset position improved with an amount of R91.486 million. Moreover, an unqualified audit report was received from the external auditors.

Financial Statements



ASSETS

Non-current assets

Property, plant and equipment	
Investment property	
Other non-current financial assets	
Non-current receivables	
Student loans	
Other non-current receivables	
Leasehold asset	

2010
R '000

2009
R '000

	441 569	378 404
	276 284	233 839
	1 336	1 352
	163 329	142 577
	620	636
	-	-
	-	96
	620	540

Current assets

Receivables and prepayments	
Student debtors	
Other amounts	
Cash and cash equivalents	

	250 975	222 654
	26 694	12 849
	21 193	10 398
	5 501	2 451
	224 281	209 805
	692 544	601 058

Total assets

FUNDS AND LIABILITIES

Funds available

Property capital fund	
Restricted use funds reserves	
Other - Education and general	
Unrestricted use funds reserves - Education and general	

	453 536	367 353
	-	159 290
	56 198	78 566
	397 338	129 497

Non-current liabilities

Interest bearing borrowings	
Post retirement obligations	

	54 767	54 309
	128	3 801
	54 639	50 508

Current liabilities

Accounts payable and accrued liabilities	
Leave accrual	
Current portion of interest bearing borrowings	

	184 241	179 396
	181 421	175 621
	376	357
	2 444	3 418
	692 544	601 058

Total funds and liabilities

Statement of
Comprehensive
Income for the year
ended December
2010

	2010 R '000			2009 R '000		
	Council Controlled Unrestricted	Specifically Funded Activities Restricted	Student and staff Accom- modation Unrestricted	SUB - TOTAL	TOTAL	TOTAL
TOTAL INCOME	418 100	47 745	465 845	8 412	474 257	414 010
RECURRENT ITEMS						
State appropriations - subsidies and grants	247 658	10 816	258 474	-	258 474	223 693
Tuition and other fee income	146 664	3 030	149 694	8 412	158 106	142 860
Income from contracts	-	20 591	20 591	-	20 591	14 761
Sales of goods and services	5 164	-	5 164	-	5 164	5 073
Other income	442	-	442	-	442	284
Private gifts and grants	434	4 604	5 038	-	5 038	2 864
SUBTOTAL	400 362	39 041	439 403	8 412	447 815	389 535
Finance income	17 738	8 704	26 442	-	26 442	24 474
TOTAL EXPENDITURE	363 619	26 232	389 850	8 366	398 216	365 313
RECURRENT ITEMS	363 619	26 232	389 850	8 366	398 216	365 313
Personnel	246 156	7 064	253 219	3 867	257 086	221 981
Salaries	240 788	7 064	247 851	3 867	251 718	217 368
Post retirement benefits: Deficit	5 368	-	5 368	-	5 368	4 613
Other current operating expenses	94 733	19 168	113 901	4 380	118 281	126 797
Depreciation	16 550	-	16 550	-	16 550	13 527
SUBTOTAL	357 439	26 232	383 670	8 247	391 917	362 305
Finance costs	2 173	-	2 173	119	2 292	2 815
NON-RECURRENT ITEMS						
Loss on disposal of assets	4 007	-	4 007	-	4 007	193
SURPLUS FOR THE YEAR	54 481	21 513	75 994	46	76 040	48 696
OTHER COMPREHENSIVE INCOME						
Actuarial gain on post retirement benefit plan	1 237	-	1 237	-	1 237	1 110
Net gain on available-for-sale financial assets	9 635	-	9 635	-	9 635	8 682
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	10 872	-	10 872	-	10 872	9 792

Statement of Cash
flows for the year
ended 31 December
2010

	2010 R '000	2009 R '000
Operating activities		
Cash generated from operations	<u>69 084</u>	<u>97 367</u>
Net cash flows from operating activities	<u>69 084</u>	<u>97 367</u>
Investing activities		
Acquisition of property, plant and equipment	(63 004)	(49 556)
Proceeds on the disposal of assets	17	-
Non current financial assets - realisation at fair value / matured	47 132	-
Increase in other non-current financial assets	(51 028)	-
Interest received	19 213	18 067
Net cash flows used in investing activities	<u>(47 670)</u>	<u>(31 489)</u>
Financing activities		
Repayment of borrowings	(4 646)	(4 489)
Interest paid	(2 292)	(2 815)
Net cash flows used in financing activities	<u>(6 940)</u>	<u>(7 303)</u>
Net increase in cash and cash equivalents	14 476	58 574
Cash and cash equivalents at 1 January	<u>209 805</u>	<u>151 231</u>
Cash and cash equivalents at end of year	<u>224 281</u>	<u>209 805</u>



Central University of
Technology, Free State

2010

GENERAL ENQUIRIES

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