

**FACULTY ANNUAL REPORT**

**FOR THE YEAR**

**2013**

**FACULTY OF SCIENCE**

**SUBMISSION TO SENATE**

**Prof. /PJJG Marais**

**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY**

**SECTION A: OVERVIEW OF FACULTY ACTIVITIES AND ACHIEVEMENTS FOR THE YEAR**

**1. INTRODUCTION**

**2. GOVERNANCE AND PLANNING**

2.1 Achievement of faculty strategic/implementation plan

2.2 Quality Improvement

* 1. Risk Management

2.4 Safety, Health and Environment

**3. STUDENT DEVELOPMENT AND SUPPORT**

**4. STAFF DEVELOPMENT AND CAPACITY BUILDING**

4.1 Professional Staff Development Opportunities

4.2 Qualification improvement

4.3 Staff involved in further study

4.4 Awards received by staff members

4.5 Staff involvement in committees, Scientific Councils, Boards, etc.

**5. COMMUNITY ENGAGEMENT PROJECTS**

**6. CO-OPERATIVE EDUCATION/**

6.1 Work Integrated Learning

6.2 Advisory Committees

* 1. Industry Liaison

**7. INSTRUCTIONAL TECHNOLOGY**

7.1Education Technology Integration

7.2 eMedia Design and Development

7.3 eLearning

**8. EXTERNAL FUNDING**

**9. INTERNATIONAL PROJECTS**

**SECTION B: KEY PERFORMANCE INDICATORS**

**1. STUDENT OVERVIEW AND DEMOGRAPHICS**

1.1 Student overview by campus (including Headcounts, FTEs, Success and Graduation Rates)

1.2 Student headcount by mode of instruction (contact/distance)

1.3 Student headcount by race, gender and disability (D/A)

1.4 Number of students in foundation courses

**2. FACULTY STUDENT HEADCOUNT ENROLMENTS**

2.1 Headcount Enrolment by Major Field of Study

* 1. Headcount Enrolment by Qualification Type

**3. GRADUATION OVERVIEW**3.1 Graduates by Major Field of Study

3.2 Graduates by Qualification Type

* 1. Graduates by First Order CESM

**4. RESEARCH AND RESEARCH OUTPUT**

4.1 Publications

4.2 International visits

4.3 Visiting Researchers

4.4 Conference Participation

4.5 Funding for research

**5. TEACHING INPUT UNITS (TIUS) AND TEACHING OUTPUT UNITS (TOUS)**

**6. STAFF PROFILE, QUALIFICATIONS AND RATIOS**

6.1 General Overview

6.2 Number of Staff per Race, Gender and Disability (D/A)

6.3 Number of Staff per Person Category

6.4 Instructional/Research Staff per Qualification Type

6.5 Instructional/Research Staff Ratios

**7. PQM ALIGNMENT TO HEQF**

7.1 Extent to which Faculty PQM has been aligned to the HEQF

7.2 Number of current programmes being phased out per department

7.3 New programmes offered for the first time

* 1. Programmes under revision
  2. Summary of all faculty programmes in each of the A, B and C categories

**CONTENT**

**SECTION A**

**1. INTRODUCTION**

**EXECUTIVE SUMMARY**

The total number of students enrolled in the Faculty showed a small increase to 6911 compared to 6769 in 2012 and a 10% increase in postgraduate students to 331 compared to 301 in 2012. The number of postgraduate qualifications awarded in 2013 remained steady with 42 Master’s degrees and 10 Doctorates.

The Faculty currently employs 738 Permanent and Temporary staff with 466 (63.13%) belonging to the designated

groups. The number of rated scientists remained at21, contributing to the success rate of post graduate students and

research conducted in the Faculty. The Faculty of Science however lost three rated researchers that resigned during

2013.

The Faculty has seen very positive growth with regards to its student success rate over the last couple of years. Student

success rate for undergraduate studies increased to 76.7% in 2013 (Compared to 74.8% in 2012). The Faculty is

now starting to see the results from its improvement plans being implemented. In line with the student success rate the

graduation rate of the Faculty dropped slightly to 22.9% compared to 24.3% in 2012.

**SELECTED HIGHLIGHTS**

The handover of a number of under graduate and research refurbished laboratories, made possible by the Infrastructure and Efficiency Funding (IEF), was a major highlight for the faculty. The newly refurbished laboratories will not only aid in the teaching and learning efforts but also assist hugely with the faculty’s research endeavours.

The Gauteng Department of Agriculture and Rural Development (GDARD) awarded an amount of R 826 000-00 to the Department of Biotechnology and Food Technology for 2013; to utilize as student bursaries. The funds were utilized for student bursaries for academic achieving students as well as financial needy students. The Faculty hosted the 12th Radiography Students’ Seminar on 11 September 2013 at Lewende Woord Complex, Brummeria Pretoria. This event attracted approximately 650 Radiography students and staff members from the University of Johannesburg, the University of Limpopo (Medunsa campus), the University of Pretoria and the Tshwane University of Technology. This event is hosted on a rotation basis amongst the four participating institutions of higher education.

The Department of Environmental Health was the first at TUT to receive accreditation from CHE to offer a 4-year professional degree programme and funding approval from DHET.

In the Department of Environmental, Water and Earth sciences staff received several awards during the Excellence Awards Ceremony of 27 August 2013. Prof J Maree and Dr S Fourie both received the award for External Research income generated for the year 2012. Prof M Momba and her team received the Innovator of the year 2012 award and Prof Momba also received the Vice Chancellor Female Researcher of the year 2012 award.

Prof Jannie Maree and Dr Stoffel Fourie were announced the winners of the SA Premier Business Awards in the category of Technology Development. In addition this team was also awarded the DTI Technology Award: First Prize in the THRIP Quality and Quantity of Students Category (October, 2013).

The Faculty of Science was successful in being awarded three new SARChI chairs. Two of these in the Department of Environmental, Water and Earth Sciences. The first of these was awarded to Prof Maggie Momba and the second to Professor Christian Wolkersdorfer from Germany. The third of these SARChI chairs, this one in Phytomedicine, was awarded to Prof Alvaro VIlfoen of the Department of Pharmaceutical Sciences.

Rand Water awarded two Rand Water Chairs to the Faculty, one in Organic Chemistry and the second inWater Untilisation. Prof Jonathan Okonkwo and Prof Jannie Maree, both from the Department of Environmental, Water and Earth Sciences, were appointed in these positions.

The third Science and Technology Train workshop, organised but Dr Stoffel Fourie, was held in Matjiesfontein during April. The first base station for the Magnetotelluric (MT) research on the Trompsburg Complex was established recently by Dr Fourie and a further vault was established at Matjiesfontein and another on TUT’s Pretoria campus. This will eventually be the first and only MT related seismology research complex for South Africa and holds large implications in terms of seismology activity for southern Africa.

Cheryl Ogilvie, from the Department of Nature Conservation, was honoured by receiving an Excellency Award presented at Ezemvelo KZN Wildlife’s Excellence Awards ceremony for her contribution to the Ndumo community project.

Cheryl received one of six awards in the External Award – Corporate Category. The award, handed over by Ezemvelo KZN Wildlife CEO, Dr Bandile Mkhize, recognises the contribution made by organisations and individuals as nominated by Ezemvelo KZN Wildlife staff.

In the Department of Pharmaceutical Sciences Prof Viljoen was also recognised for his significant contribution to science. The World Academy of Sciences Regional Office for sub-Saharan Africa (TWAS-ROSSA) recently selected him as the winner in the AU-TWAS-ROSSA young scientist (< 45 years of age) in the Basic Sciences Category.

Professor Viljoen was also awarded the South African Association of Botanists (SAAB) Silver Medal Award at the 39th Annual SAAB Congress hosted by University of KwaZulu-Natal. A definitive highlight for the department was the monitoring visit of the South African Pharmacy Council that resulted in approval of the BPharm programme for TUT.

The Faculty of Science launched the Young Women in Science Network In celebration of Women’s Month and National Science Week at its Arcadia Campus on Saturday, 27 July 2013.

Employees who have been with TUT for 20-35 years were recognised for the dedicated service and commitment to the institution at the TUT Long Service Awards. Professor Pieter Marais, Executive Dean at the Faculty of Science, the longest serving executive dean in the history of TUT received a Long Service Award for 35 years.

**2. GOVERNANCE AND PLANNING**

**2.1 Faculty Strategic and Implementation Plan(s)**

Each Faculty within TUT had to submit a business plan for the period 2009 – 2013. Most of the plans are long-term and will be monitored over a longer period. The Faculty further started the development of a new Strategic Plan in 2011 that continued during 2013. The Faculty Strategic Implementation Plan will be aligned to the Institutional Strategic Plan currently under review by the Vice Chancellor and the EMC.

The Faculty of Science consists of 14 departments; seven of these are situated on the Arcadia campus and seven on the Pretoria West campus. One of the 14 departments, Mathematics and Statistics, will continue to have staff on all the urban sites where they provide a valuable service to other faculties.

The Faculty is in an enviable position because all of its current National Diplomas lead to B Tech degrees while most of the B Tech degrees lead to Master’s degrees. In the Department of Sport, Rehabilitation and Dental Sciences a number of programmes are without a suitable Master’s degree and this is a matter of serious concern to the Faculty.

At the end of this reporting period, the HEQSF was still not finalized leading to huge uncertainty with regards to future planning of the Faculty. Not knowing in which programmes we will be allowed to have postgraduate programmes makes future planning very difficult and almost impossible to plan for recruitment of staff. The future PQM of the Faculty depends totally on the HEQSF and not having clarity is placing a huge damper on all aspects of planning.

**2.2 Quality Improvement**

* **Department of Animal Science**

A batch of 50 clickers was obtained in order to improve lecturing and student interaction. This will be implemented in Equine science from January 2014.

* **Department of Biotechnology & Food Technology**

Quality management systems and procedures are in place and functioning well. The department is addressing the matters mentioned in the quality improvement plans and manage all strategic planning sessions in a well structures manner.

*The main areas of improvement:*

• The department (and individual programme groups) will consciously improve on formal strategic planning sessions. Previously, these were mostly held as informal discussions. During 2013, this process has been strengthened and a number of strategic planning sessions were held. Progress are monitored thus ensuring that we address all identified areas of development in due course.

• Succession plan - this issue is still outstanding and will receive the necessary attention in the next two years.

• Continuous involvement with intervention strategies to improve overall throughput rate. During 2013, this matter was vigorously pursuit as part of the HEQSF process. Good progress has been made and in January 2014, a workshop on assessment will be offered to the department in order to improve on current practices.

• Continuous involvement with intervention strategies to improve overall throughput rate.

* **Department of Crop Sciences**

QIPs from the 2011 evaluations have been handed to all staff members to assist them with continuous improvement of the programmes

* **Department of Environmental Health**

The Department is in a process of compiling a quality improvement plan for the programme through the departmental quality committee.

* **Department of Environmental, Water & Earth Sciences**

A Quality Improvement Plan (QIP) was drawn up by the academic staff for each program and this draft document was submitted to the Directorate Quality Promotions for comment. After incorporating the comments, a final QIP was submitted and each programs QIP was accepted by the Dean’s office and the office of the Directorate Quality Promotions. The QIP of each program was reviewed by each program Advisory Committee in the first semester of 2013 and the QIP is being drafted for immediate implementation. The full report for each program is available from the department or the Directorate of Quality Promotions.

To summarize, the QIP tabled 24 recommendations for the program Environmental Science, 14 recommendations for the program Geology and 19 recommendations for the program Water Care.

* **Department of Horticulture**

Quality improvement plans were implemented; including the evaluation of all study guides by Mr Riaan Bouwer (CDS) to ensure compliance with institutional requirements as well as relevant subject requirements. Workshops on assessment methods were presented by Mr Riaan Bouwer (CDS) in order to improve assessment. A workshop on the use of myTUTor was presented to all lecturers and all subjects were loaded onto myTUTor. Post graduate student assistants were appointed. RISK analysis and follow-up intervention by SDS for all first year students was done. RISK analysis of laboratory facilities was carried out.

Marketing at school open days by lecturers were carried out in conjunction with Mr Mario Smit.

Subject files were evaluated and updated by lecturers; meetings were held with the student liaison committee in order to provide students with a forum for addressing their complaints and for providing input on the programme; reviewing the research activities for both B Tech and M Tech programmes in order to improve them.

A new research laboratory was taken into use and upgraded for B Tech and PG research; lecturers encouraged deserving students to register for postgraduate studies and 5 new M Tech students will enrol for 2014; additional lecturing for first year students on computer skills was implemented.

Improvement of practicals sessions and post graduate student assistance and teaching was implemented; lecturer was appointed as Gauteng board member of ILASA; subject files were evaluated by lecturers and continuation of appointing programme coordinators to manage programmes and departmental activities.

* **Department of Mathematics & Statistics**

In response to the panels' feedback the DMS submitted the Quality Improvement Plans (QIP's). Staff members are participating in the implementation of the plans. The QIP's are available on request.

During 2013 several meetings were held in the Quality section of the DMS. Mrs Mouton, program coordinator for the quality section, chaired the meetings.

The two days of orientation with the students on the Arcadia campus and Toppieshoek were very successful. Students still found it difficult to cope with their studies and their responsibilities at work. Many students cancelled some of their subject.

The first curriculation plans were conducted in a workshop where lecturers form UJ and NMMUT also participated. The first documents on the curriculation were submitted to DHET.

The Quality section decided to increase the intake of new students for 2014. After interviewing the students, 53 first time students were selected.

* **Adelaide Tambo School of Nursing Science**

The School is implementing the recommendations of the SER (2011). Aspects that have been improved include the following:

• Implementation of Performance Management System ongoing. The PMS of the HoD has been signed and the process will now be rolled out to the personnel of the school.

• Prescribed material was revised and updated and additional library sources acquired.

• A student liaison committee is functional.

• The monitoring system of the WIL hours of the students have been improved as well as the routes for transport to and from the WIL facilities.

• The turnaround time after writing has improved for most staff members. There are some staff members who are still not complying; they will be monitored closely in 2014.

• E-learning has been an area in need of growth for a long time. In 2013, a formal study has been approved to improve the throughput of the students using a blended learning approach.

* **Department of Pharmaceutical Sciences**

A Quality improvement plan is being drawn up in response to the SAPC programme accreditation visit report.

Implementation of the quality improvement plans is ongoing.for the other programmes offered in the department.

* **Department of Physics**

The Department of Physics has now an established quality management system (QMS). Under the QMS, programme organogram is drawn up with lines of accountability, communication and reporting well defined. In addition, the Fire Technology’s programme fitness for and of purpose have been reformulated. Standard operations procedures (SOP) of academic and administrative categories have been written down as well as Quality Management Calendar (QMC) that has been develop to manage the process.

**2.3 Risk Management**

A Faculty risk register was compiled during 2009 and was escalated down to individual registers for each department in

2010. This risk register was updated in 2013.

**2.4 Safety, Health and Environment**

Monthly Safety, Health and Environment (SHE) meetings were held. All issues raised were given the necessary attention and the Faculty can report that no serious incidents were reported. The issue of the non-operational lifts on the Arcadia Campus were addressed on numerous occasions and should be acted upon as a matter of great urgency as it may pose a great risk in terms of safety and movement of disabled staff and students and with the transportation of hazardous materials (chemicals) to the labs from the ground floor.

**3. STUDENT DEVELOPMENT AND SUPPORT**

**Department of Biotechnology & Food Technology**

The Gauteng Department of Agriculture and Rural Development (GDARD) again awarded an amount of R 826 000-00 to

the Department of Biotechnology and Food Technology for 2013; to be utilized for student bursaries. The funds were

utilized for student bursaries, for academic achieving students as well as financial needy students.

The SAAFoST student day was hosted by TUT on the 22nd of October 2013. This function was a day function and was

very well attended by staff from other HE institutions (this year the University of Venda was also represented), as well as

representatives from industry. The food products developed by the Food Technology students of UJ and TUT were

evaluated by judges from industry for scientific content, originality as well as marketability.

*The following products were awarded prizes:*

o Group 3: Kefir starter kit -Best commercial potential and best overall award

o Group 4: Sorghum beer - Best scientific award

o Group 2: Gluten free high fibre muffins and

o Group 5: Sugar reduced fruit and vegetable jam - Shared the best display award.

Our students were once again praised for their efforts, the food products were of high standard, their scientific knowledge

regarding the products were sound and some of the products have the potential to be marketed with success

In addition to this, the department has been hosting, for a number of years, an in-house award ceremony. The best

student per subject is identified and they receive a certificate as well as a plaque. The ceremony is scheduled on

predicate day to ensure that all students are on campus and can attend, and all staff and students of the department are

invited to attend. In this manner the students receive recognition for hard work and this seems to be a very popular event

amongst students.

**Department of Biomedical Technology**

The Clinical Technology student Ms Veronique Swart received the Chancellor’s Medal for outstanding academic

achievement at the graduation ceremony held on 30 April 2013.

**Department of Environmental, Water & Earth Science**

Tarek Samir Jamil (M Tech Water Care) received a certificate on behalf of the co-operation Egypt-TUT research, during

the CB-WR-MED Conference/2nd AOP Tunisia Conference, for Sustainable water management, Tunis, 2013, April 24-27.

Mrs Nomcebo Mthombeni under the supervision of Prof Onyango and Prof Momba received the Institutional award as the

best M Tech student of the year-for the year 2012.

**Department of Pharmaceutical Sciences**

Dr Maxleene Sandasi received the TUT Institutional Doctoral Student of the Year Award for the best doctoral thesis at

TUT in 2012.

Dr Hamid Adhami received the 2nd prize In the TUT Innovation Awards for his research entitled “A rapid and innovative

method for isolating commercially important molecules from Aloe ferox”.

**Department of Sport, Rehabilitation & Dental Sciences**

Sameer Gamaldien won the OSSUR award. The prize this year was to attend the ISPO congress in 2014 in Cape Town –

All Expenses paid This was for the best project presented by B-Tech’s 2013 MOP

Henry Bantjes was awarded the SADTC medal for best N Dip Dental Technology student.

Leandi Venter was awarded the SADTC medal for best B Tech Dental Technology student.

Johan Venter – TUT disabled sportsman of the year, Selected for SA Blind Cricket Team

**4. STAFF DEVELOPMENT AND CAPACITY BUILDING**

**4.1 Professional Staff Development Opportunities**

|  |  |  |
| --- | --- | --- |
| **Licence to Teach: July 2013** | | |
| **Faculty of Science** | | |
| Dr Y Havenga (Nursing) | 7 |  |
| Dr P Kama (Mathematics and Statistics) | 10 |  |
| Mr A Kubayi (Sport, Rehabilitation Science) | Completed. Last submissions to be assessed. |  |
| Dr D Mkhonto (Physics) | 10 |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| **Licence to Teach: January 2013** | | |
| **Faculty of Science** | | |
| Mr D Lamola (Biomedical Science) | 8 (Extension requested) |  |
| Mr F Mnisi (Environmental Health) | 6 |  |
| Mr M Pilusa (Nursing) | 2 |  |
| Mr T Podile (Mathematics and Statistics) | 10 |  |
| Mr Z Tyoda (Geology) | 2 |  |

| **Activity** | **2013** | **Details**  In this section, please embed all documents that support your data (e.g. Attendance lists). | | | | | | | | | | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Professional Development activities** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Academic orientation of newly appointed permanent staff** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Permanent lecturing staff (Licence to Teach)** | **8 participants registered**  **(in total for the Faculty)**  **2 participants successfully completing the programme**  **(in total for the Faculty)** | | **January 2013** | | | | | | | | | | | | | | **July 2013** | | | | | | | | | |
| **Number of participants registered** | | | | | | | **Number of participants successfully completing the programme** | | | | | | | **Number of participants registered** | | | | | | | **Number of participants successfully completing the programme** | | |
| **8** | | | | | | | **3** | | | | | | | **4** | | | | | | | **2** | | |
| **Part time lecturing staff** | **12 participants registered (in total for the Faculty)** | | **January 2013** | | | | | | | | | | | | | | **July 2013** | | | | | | | | | |
| **Number of participants registered** | | | | | | | **Number of participants successfully completing the programme** | | | | | | | **Number of participants registered** | | | | | | | **Number of participants successfully completing the programme** | | |
| **4** | | | | | | | **0** | | | | | | | **8** | | | | | | | **0** | | |
| **Professors programme** | **0 participants registered**  **(in total for the Faculty)** | | **January 2013** | | | | | | | | | | | | | | **July 2013** | | | | | | | | | |
| **0** | | | | | | | | | | | | | | **0** | | | | | | | | | |
| **Dean, HOD and Section Head Programme** | **0 participants registered**  **(in total for the Faculty)** | | **January 2013** | | | | | | | | | | | **July 2013** | | | | | | | | | | | | |
| **0** | | | | | | | | | | | **0** | | | | | | | | | | | | |
| **Academic Leadership Programme (ALP)** | **7 ALPs were presented in 2013**  **12 Staff members attended at least 1 or more ALP** | | **Total nr invited** | **Jan** | **Feb** | | **March** | | | **Apr** | | **May** | | **June** | | **July** | | **Aug** | | **Sept** | | **Oct** | | | **Nov** | |
|  |  | **10** | | **15** | | | **8** | |  | |  | |  | | **13** | | **15** | | **13** | | | **11** | |
| **Study Guide Workshop** | **2 number of workshops**  **6 number of participants** | | Workshops offered to staff of Horticulture in assessment in study guides as follow up on review of guides | | | | | | | | | | | | | | | | | | | | | | | |
| **SLP: Curriculum Development and Support**  **In process** | **4 x SLPs were presented**  **37 x participants registered**  **0 total number of participants successfully completed the SLP** | | **Dept** | | | **Chemistry** | | **Biomedical** | **Nature Cons** | | **Horticulture** | | **Nursing** | | **Mathematics** | |  | |  | |  | |  | | |  |
| **Nr registered** | | | **3** | | **3** | **1** | | **5** | | **1** | | **24** | |  | |  | |  | |  | | |  |
| **Nr successfully completed** | | | **0** | | **0** | **0** | | **0** | | **0** | | **0** | |  | |  | |  | |  | | |  |
| **SLP: Licence to Teach** | **1 x L2T SLPs presented**  **5 x participants registered**  **0 total number of participants successfully completed the SLP** | | **Dept** | | | **Biomedical** | | **Crop Sciences** | **Animal Sciences** | |  | |  | |  | |  | |  | |  | |  | | |  |
| **Nr registered** | | | **3** | | **1** | **1** | |  | |  | |  | |  | |  | |  | |  | | |  |
| **Nr successfully completed** | | | **0** | | **0** | **0** | |  | |  | |  | |  | |  | |  | |  | | |  |
| **SLP: Assessment and Moderation in Higher Education** | **2 x Assessment SLPs presented**  **6 x participants registered**  **0 total number of participants successfully completed the SLP** | | **Dept** | | | **Nursing** | | **Biomedical** | **Mathematics** | |  | |  | |  | |  | |  | |  | |  | | |  |
| **Nr registered** | | | **3** | | **1** | **2** | |  | |  | |  | |  | |  | |  | |  | | |  |
| **Nr successfully completed** | | | **0** | | **0** | **0** | |  | |  | |  | |  | |  | |  | |  | | |  |
| **Assessing Assessment Workshop** | **0 number of workshops**  **0 number of participants** | | **n/a** | | | | | | | | | | | | | | | | | | | | | | | |
| **Voice and Delivery Skills Workshops** | **15 workshop in total**  **9 participants in total** | | **Workshops**  **(One day)** | | | | | | | **Workshop**  **(One hour)** | | | | | | | | **Individual sessions** | | | | | | | | |
| **Nr of workshops** | | **Nr of participants** | | | | | **Nr of workshop** | | | | **Nr of participants** | | | | **Nr of workshops** | | | | **Nr of participants** | | | | |
| **1** | | **3** | | | | |  | | | |  | | | | **14** | | | | **6** | | | | |
| **HEQF awareness sessions** | **0 sessions in total**  **0 participants in total** | | **n/a** | | | | | | | | | | | | | | | | | | | | | | | |

The Faculty of Science is totally committed to continuous Academic Professional Development which is evident from the amount of courses and workshops undertaken by its staff. Big impetus is placed on Curriculum Development and Teaching & Learning Assessment.

These interventions are starting to bear fruit as The Faculty has seen very positive growth with regards to its student success rate. Student success rate for undergraduate studies were maintained at 76.7% in 2013. The Faculty is now starting to see the results from its improvement plans being implemented.

**4.2 Qualification Improvement**

|  |  |  |
| --- | --- | --- |
| ***Name of staff members*** | ***Qualification*** | ***Institution awarded*** |
|  |  |  |
| **Department of Chemistry** | | |
| Hlongwane MM | M Tech (Chemistry) | TUT |
| Khanye GE | M Tech (Chemistry) | TUT |
|  |  |  |
| **Department of Crop Sciences** | | |
| Dr M.E. Moshia | Diploma in Environmental Sciences | Alison, UK |
|  |  |  |
| **Department of Environmental Health** | | |
| Bekker JL | D Tech: Environmental Health | Tshwane University of Technology |
| Mokgobu MI | PhD: Medical Immunology | University of Pretoria |
|  |  |  |
| **Department of Environmental, Water & Earth Science** | | |
| Mrs L Monyatse | D Tech Water Care | TUT |
| Mr Z Tyoda | MSc Geology | University of Stellenbosch |
|  |  |  |
| **Department of Mathematics & Statistics** | | |
| PH Grobler | B Tech (Quality) | UJ |
|  |  |  |
| **Department of Nature Conservation** | | |
| JJ Viljoen | PhD Zoology | UP |
|  |  |  |
| **Nursing Science** | | |
| Dr R de Swardt | D Litt et Phil | UNISA |
| Mrs Z Ligthelm | M Tech Nursing | TUT |
| Mrs D Beckmann | M Tech Nursing | TUT |
|  |  |  |
| **Department of Pharmaceutical Sciences** | | |
| Mrs D Baron | M Tech Somatology | TUT |
|  |  |  |
| **Department of Sport, Rehabilitation & Dental Science** | | |
| Mr J. Jooste | M.A. | University of Pretoria |

**4.3 Staff Involved In Further Study**

*[Comment on staff that is appointed with condition, give number and % still under condition. List all staff that is currently busy with further study]*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Name of staff member*** | ***Qualification*** | ***Institution*** | ***Date of first registration*** | ***Currently registered***  ***Yes No*** | |
| **Department of Animal Science** | | | | | |
| WHJ van Rensburg | D Tech: Agriculture | TUT | January 2012 | Yes |  |
| MD Mansfield | M Tech: Agriculture | TUT | July 2012 | Yes |  |
| CJL du Toit | PhD | UP | 2011 | Yes |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Department of Biotechnology & Food Technology** | | | | | |
| Ms EM Beukes | PhD Food Science | US | 2007 | Y |  |
| Ms E Jordaan | D Tech Biotechnology | TUT | 2010 | Y |  |
| Ms EM Mogale | M Tech Biotechnology | TUT | 2013 | Y |  |
| Mr CF van Rooi | M Tech Food Technology | TUT | 2013 |  | N |
|  |  |  |  |  |  |
| **Department of Biomedical Sciences** | | | | | |
| S Pretorius | M Tech Biomedical Technology | TUT | 2005 |  | x |
| CMR Khabo- Mmekoa | D Tech Water Care | TUT | 2008 | x |  |
| M Swart | M Tech Clinical Technology | TUT | 2010 | x |  |
| B Johnson | M Tech Radiography | TUT | 2011 | x |  |
| C Boshoff | PhD Zoology | UP | 2011 | x |  |
| S Steenkamp-Jonker | M Tech Veterinary Technology | TUT | 2012 | x |  |
| MA Chauke | M Tech Biomedical Technology | TUT | 2012 | x |  |
| L Hazelhurst | PhD Physiological Sciences | Stellenbosch University | 2013 | x |  |
|  |  |  |  |  |  |
| **Department of Chemistry** | | | | | |
| \*Koape LDR | PhD (Chemistry) | UNISA |  | Yes |  |
| Lepule SP | D Tech (Chemistry) | TUT |  |  | No |
| Linde JH | D Tech (Chemistry) | TUT |  |  | No |
| Mashigo MF | D Tech (Chemistry) | TUT |  | Yes |  |
| \*Matlaila KM | M Tech (Pharmaceutical Sciences) | TUT |  |  | No |
| Melato FA | D Tech (Chemistry) | TUT |  | Yes |  |
| Mputumana NA | D Tech (Chemistry) | TUT |  |  | No |
| Nokwequ MG | D Tech (Chemistry) | TUT |  | Yes |  |
| Vogel A | PhD (Chemistry) | York University, Canada |  |  | No |
| **Department of Crop Sciences** | | | | | |
|  |  |  |  |  |  |
| Mr Marcus Sosibo | M Tech | TUT | 2009 |  | No |
|  |  |  |  |  |  |
| **Department of Environmental Health** | | | | | |
| Harmse JL | D Tech: Environmental Health | Tshwane University of Technology | 2012 | √ |  |
| Morodi TJ | DPhil: Applied Ethics | University of Stellenbosch | 2010 | √ |  |
| Mudau LS | D Tech: Environmental Health | Tshwane University of Technology | 2009 | √ |  |
| Shirinde JM | PhD: Public Health | University of Pretoria | 2011 | √ |  |
|  |  |  |  |  |  |
| **Department of Environmental, Water & Earth Sciences** | | | | | |
| Mrs L Sikhosana | postgraduate diploma : Water Engineering | Wits | January 2012 | Yes |  |
| Mrs J Mankazana | D Tech Water Care | TUT | January 2008 | Yes |  |
| Mrs R Lakhraj-Govender | PhD Environmental Science | UNISA | August 2013 | Yes |  |
| Mr P Kotze | M Tech Water Care | TUT | pending |  | No |
|  |  |  |  |  |  |
| **Department of Horticulture** | | | | | |
| K Prinsloo | PhD | UP | 2013 | X |  |
| L Marais | M Tech | TUT | 2013 | X |  |
| S Dladla | M Tech | TUT | 2014 |  | X |
|  |  |  |  |  |  |
| **Department of Mathematics & Statistics** | | | | | |
| Motsepe KA | D Tech (Mathematical Technology) | TUT | 2010 | X |  |
| Grobler PH | M.Tech: Chemistry | TUT | 2009 | X |  |
| Khunoana ME | M Sc (Statistics) | UP | 2011 | X |  |
| Pete AN | D Tech (Mathematical Technology) | TUT | 2011 | X |  |
| Ncube CN | PhD Mathematics | UNISA | 2010 | X |  |
| Aphane M | PhD Mathematics | UNISA | 2009 | X |  |
| Spoelstra H | M Tech (Mathematical Technology) | TUT | 2009 | X |  |
| Naidoo M | PhD | Rhodes | 2009 | X |  |
| Mouton SA | M Tech (Quality) | TUT | 2013 | X |  |
| Jordaan JP | M Tech (Quality) | TUT | 2013 | X |  |
|  |  |  |  |  |  |
| **Department of Nature Conservation** | | | | | |
| AJ Botha | D Tech | TUT | 2012 | X |  |
| Me Pillai | PhD | WITS | 2011 | X |  |
| Me C Ogilvie | PhD | TUT |  |  | X |
| Mr K Kotze | PhD | UFS |  |  | X |
| Mr AA Biko’o | D Tech | TUT |  | X |  |
| Mr D.J Krynauw | D Tech | TUT |  |  | X |
| Mr N Funda | PhD | KZN |  |  | X |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **Department of Nursing Science** | | | | | |
| Mrs D Beckmann | D Tech Nursing | TUT | 2013 | Yes |  |
| Mrs Z Janse van Rensburg | D Tech Nursing | TUT | 2012 | Yes |  |
| Mrs JJM Jansen van Rensburg | D Tech Nursing | WITS | 2012 | Yes |  |
| Mr M Pilusa | D Tech Nursing | TUT | 2012 | Yes |  |
| Mrs NG Mafutha | D Tech Nursing | TUT | 2012 | Yes |  |
| Mrs ME Chokwe | D Tech Nursing | TUT | 2011 | Yes |  |
| Mrs Z Ligthelm | D Tech Nursing | TUT | - |  | No |
| Mrs G Khutoane | D Litt et Phil | UNISA | 2013 |  | No |
| Ms N Ngwenya | M tech Nursing | TUT | 2013 | Yes |  |
|  |  |  |  |  |  |
| **Department of Pharmaceutical Science** | | | | | |
| B Komane- Mofokeng | DTech Pharmaceutical Sciences | TUT | 2012 |  | No |
| C Leonard | DTech Pharmaceutical Sciences | TUT | 2010 |  | No |
| N Mncwangi | DTech Pharmaceutical Sciences | TUT | 2011 |  | No |
| T Mapeka | PhD | WITS | Still to register |  | No |
| C Louw | MTech Somatology | TUT | 2012 |  | No |
|  |  |  |  |  |  |
| **Department of Physics** | | | | | |
| MK Maremane | PhD | UNISA | Feb 2011 | √ |  |
| S Titus | PhD | UNISA | July 2012 | √ |  |
| J Madonsela | PhD | Utrecht |  |  | √ |
| IJ Ludick | M Tech | TUT |  |  | √ |
| NF Monnye | M Tech | TUT | Dec 2013 | √ |  |
|  |  |  |  |  |  |
| **Department of Sport, Rehabilitation & Dental Science** | | | | | |
| CM Snyman | Master’s degree: Public Health | UNISA | January 2011 | Yes |  |
| M. Schmidt | Masters degree: Rehabilitation studies | Strathclyde University Scotland | September 2012 | Yes |  |
| P Boshof | Masters degree: Rehabilitation studies | Strathclyde University Scotland | September 2013 | Yes |  |
| J Jooste | PhD | Vrije Universiteit Brussel / North West University | Nov 2013 | x |  |
| A Kubayi | MA | University of Johannesburg | 2014 |  | x |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**4.4 Awards Received By Staff Members**

**Department of Biomedical Sciences**

* Dr J Shai received the Merit Award: Emerging Researcher for 2012.
* Dr S Motaung received an award for the best oral presentation at the International Conference and Exhibition on Pharmacognosy, Phytochemistry & Natural Product, held on 21-23 October 2013 in Hyderabad, India.
* Ms Steenkamp-Jonker received an award for second place in the category Best postgraduate student (MSc) at the 2nd Annual Postgraduate Research day, Faculty of Science, Medunsa, that was held on 22 November 2013.

**Department of Environmental, Water & Earth Sciences**

* Members of our departmental staff received awards during the Excellence Awards Ceremony of 27 August 2013; Prof Maree and Dr Fourie both received the award for External Research income generated for the year 2012. Prof Momba and her team received the Innovator of the year 2012 award and Prof Momba also received the Vice Chancellor Female Researcher of the year 2012 award. Furthermore, Prof Jannie Maree and Dr Stoffel Fourie were announced the winners of the SA Premier Business Awards in the category of Technology Development. This accolade was acknowledged in a letter from the VC’s office to the TUT community. In addition this team was also awarded the DTI Technology Award: First Prize in the THRIP Quality and Quantity of Students Category (October, 2013, Prize Money to be confirmed). Mr Zipho Tyoda received 3rd place on the 2013 ESRI young scholar award.

**Department of Nature Conservation**

* Mr MD Panagos received the Faculty of Science – Best lecturers’ award**.**
* Me Ogilvie received an excellence award from Ezemvelo KZN*.*

**Adelaide Tambo School of Nursing Science**

* Prof SCD Wright: Merit Award Woman Researcher of the Year 2012

**Department of Pharmaceutical Sciences**

* Ms N Mncwangi won the best publication in pharmacology award sponsored by Boeringer Ingelheim at the Academy of Pharmaceutical Sciences of South Africa (APSSA) conference for the following publication:
* Nontobeko Mncwangi, Weiyang Chen, Ilze Vermaak, Alvaro M. Viljoen, Nigel Gericke. Devil’s Claw-A review of the ethnobotany, phytochemistry and biological activity of *Harpagophytum procumbens.*
* Ms B Komane-Mofokeng received a Best poster presentation by a young scientist award in 2013. Indigenous Plant Use Forum, IUPF 2013 conference, ARC Nelspruit, South Africa, 1 – 4 July 2013.
* Best poster award: Enslin, G.M., Snyman J., Reeber, E.M., Abisola, A.A., Mahlangu, S.I., Masingi, M.C., Mogane, N.F., Sombili, S.B.  2013  Does the BPharm curriculum of TUT/UL(Medunsa campus) prepare graduates to be competent community pharmacists? Conference of the South African Association of Health Educationalists, Durban, South Africa, 27-29 June 2013.

**4.5 Staff Involvement With In Committees, Management Of Scientific Councils, Boards, Etc.**

**Department of Animal Science**

\*Prof Siebrits serves on the Research committee of the SA Pork Producers Organisation as well as on the Pork committee of the Red Meat Research and Development Trust.

Dr D Luseba serves on the Animal Care Committee of the National Zoological Gardens.

**Department of Biotechnology & Food Technology**

Various professional associations:

* South African Association for Food Science and Technology (SAAFoST)
* Cereal Science and Technology (CST-SA)
* South African Society of Dairy Technology (SASDT)
* Dairy SA (journal)
* South African Society for Microbiologists (SASM)
* As well as networking with AfricaBio, many industrial partners (including but not limited to employers)

MoU’s: GDARD, ARC, NZG and CSIR

**Department of Biomedical Sciences**

Du Toit, D:

* + Chairperson of the Ethics committee of the Medical Research council (MRC)
  + Chairperson of the Animal Ethics committee of the Medical Research council (MRC)
  + Chairperson of the National Health Research Ethics Council of South Africa (NHREC)
  + Member of the task team of Biosafety and Biosecurity (ASSAF)
  + Chairperson of the Faculty Research Ethics Committee of the Faculty of Sciences (FREC)
  + Member of the Research Ethics Committee (REC) of TUT

Motaung, SCKM:

Member of Journal review panels

* + Journal of Ethnopharmacology
  + Journal of Tissue Engineering and Regenerative Medicine
  + Medical Technology Journal South Africa

Motaung, SCKM:

* + Member of African Scientific Institute in South Africa
  + Member of the Higher Degree Committee (HDC) at Tshwane University of Technology
  + Member of Faculty Research Innovation Committee at Tshwane University of Technology
  + Member of Faculty of Higher Degree Committee (FHDC) at Tshwane University of Technology
  + Act as a panel member for the evaluation of the 2010TUT research output prior to submission to the Department of Higher Education and Training
  + Panel member to interview students to be selected for the Fulbright Scholarship
  + Chairperson of Society of Medical Laboratory Technologist of South Africa (SMLTSA) Pretoria Branch

Boshoff, C:

* + Management of South African Association of Veterinary technologists
  + Member of the CPD para-veterinary committee
  + Moderator for South African Veterinary Council, Veterinary technology exam's

Hoffmann, WA:

TUT Committees

* + Chairperson, TUT Research Ethics Committee
  + Member of the TUT Central Research and Innovation Committee (CRIC)
  + Member of the TUT Higher Degrees Committee (HDC)
  + Academic Committee, Task Team leader for the development of the TUT Policy on Plagiarism

Hoffmann, WA:

International professional body

* + National Representative for South Africa (2011-2013) on the International Association of Suicide Prevention

Hoffmann, WA:

Member of Journal review panels

* + Curationis (local journal)
  + South African Journal of Psychology
  + Heath SA Gesondheid

Hoffmann, WA:

External examiner:

* + D Tech (Homeopathy) thesis – University of Johannesburg, South Africa Title: The development of a model to facilitate success when establishing a homeopathic private practice in South Africa

Hoffmann, WA:

Consultant to non-TUT postgraduate researchers

* + Qualitative data interpretation and journal writing.  Project: Patient experiences of diagnostic imaging investigations.  DRad project, University of Pretoria, Researcher: Ms CR Makanjee

Hoffmann, WA:

External ethics review evaluator

* + Contract evaluator of the ethics review quality, Ethics Sub-committee, Faculty of Humanities: Social and Behavioural Sciences, North-West University, Vaal Triangle Campus.  Contact person: Prof Susan Coetzee Van Rooy (Chair: Ethics Sub-committee)

Steenkamp-Jonker, S: Deputy Chair, Animal Research Ethics Committee

Hazelhurst, LT: Member of the Faculty Research Ethics Committee of the Faculty of Sciences (FREC)

**Department of Crop Sciences**

Dr ME Moshia:

Tompi Seleka College of Agriculture Advisory Board Member (2013-2015) - Appointed by the Limpopo MEC for

Agriculture.

Prof P Soundy: Council Member (representing South Africa) of the International Society for Horticultural Science (ISHS).

: Former President and current Council Member of the Southern African Society for Horticultural Science (SASHS).

: Management Board Member of the SA Journal of Plant & Soil.

**Department of Environmental Health**

JL Harmse: A member of Examination Board of Southern African Institute for Occupational Hygiene

LS Mudau: A member of WRC National Sanitation Framework Committee

JL Bekker: A member of South African Bureau of Standards (SABS) technical committees for HACCP code of Practice: the implementation and management of a HACCP system, Edible oils, Microbiological evaluation of foods, feeds and beverages and dairy products.

**Department of Environmental, Water & Earth Sciences**

* Prof R Jansen: sits as a member of the Scientific and Ethics committee of the National Zoological Gardens (Pretoria). He is also a Board member on the Mabula Ground Hornbill Project, Chairman of The African Pangolin Working Group and Deputy Chair: Africa on the IUCN-SSC Pangolin Specialist Group. Within TUT, Prof Jansen sits on the Faculty Higher Degrees Committee.
* Mrs J Mankazana is a committee member of the TUT success rate committee
* Prof JP Maree sits on panels at the WRC and at the CSIR
* Dr CS Fourie is on the steering committee of the South African Geophysical Association as well as the steering committees of Coaltech Geology and Geophysics and Inkaba yeAfrica

**Department of Horticulture**

* Prof MM Slabbert is a Reference Group Member for the Water Research Commission of South Africa.
* Mrs R Kleynhans was appointed on the scientific committee of Ornamental Horticulture in the global greenhouse symposium as part of the 2014 International Horticulture Conference (IHC) taking place in Brisbane in August 2014.
* Mrs R Kleynhans is a committee member of the SABS technical committee (TC1097) involved in the development of standards for African Medicinal plants.
* Mrs K Prinsloo was elected as board member of the Gauteng ILASA.
* Mrs K Prinsloo was elected as a member of the education committee of SACLAP and was part of the accreditation of CPUT Landscape Technology programme under the body of SACLAP in May 2013.

**Department of Nature Conservation**

* Mr Panagos serves on the African Journal of Range and Forage Science Editorial Advisory Panel. Staff of the department continues to make their presence felt throughout the conservation and allied fraternities with Prof Reilly *ex officio* on council of the Southern African Wildlife Management Association as immediate past president and he also continues to serve on the Council of the South African Council for Natural and Allied Scientific Professions (SACNASP). In this capacity he also chairs the professional advisory committees of SACNASP in the fields of botanical and ecological science. He also serves on the national council of the South African Wingshooters Association and is Vice President of the South African Hunters and Game Conservation Association. He has also continued his responsibilities as a Board member of the Southern African Wildlife College and Trustee of the Booysendal Conservation Trust. Mr Botha serves as editorial advisor for the South African Journal of Agricultural Extension.

**Department of Pharmaceutical Sciences**

* Both Dr P Demana and Prof D R Katerere are members of the MCC and serve on various committees.
* Prof A Viljoen serves as the associate editor: Journal of Ethnopharmacology, the editor: Journal of Essential Oil Research and the reviewing editor: South African Journal of Botany.
* Dr Kamatou was appointed external examiner until 2015 at Walter Sisulu University.
* Staff also serve on various editorial boards for scholarly journals and act as external examiners for both undergraduate and postgraduate degrees at South African universities, as well as for the preregistration examination of the South African Pharmacy Council.
* Dr G Enslin and Ms C Leonard are TUT senate members.

**Department of Sport, Rehabilitation & Dental Sciences**

* Ms Schmidt has been co-opted in the board and education committee of Occupational Therapy, Medical Orthotics and Prosthetics and Arts Therapy.

**Adelaide Tambo School of Nursing Science**

|  |  |  |
| --- | --- | --- |
| Staff member | TUT committee(s) | External involvement |
| Prof SCD Wright | Faculty Board | Editorial Board African Journal of Nursing and Midwifery |
| Dr Y Havenga | DRIC |  |
| Dr TS Ramukumba | SHE meeting  Faculty Board | Onthatile |
| Ms ME Chokwe |  | SOMSA committee member |
| Ms R de Swardt | Student Success rate Committee | NEA committee member |
|  |  |  |

**5. COMMUNITY ENGAGEMENT PROJECTS.**

**DEPARTMENT OF BIOTECNOLOGY AND FOOD TECHNOLOGY**

Prof Jooste and Dr Richard Nyanzi are collaborating with the TUT R&I Directorate to commercialize a patented probiotic sour maize beverage. A successful pilot trial has been run in which 300 L of the beverage was produced. The beverage was packed in five different flavours. Discussions with a commercialization partner have also been successful in that this BEE company is eager to take on, produce and market the product.

**DEPARTMENT OF BIOMEDICAL SCIENCES**

The Radiography students and staff have given their time in 2013 to engage with the learners of Via Nova School (a school for children with learning and other disabilities) in East Lynne Pretoria. A cheque of R10 000 was also donated to the Via Nova School, specifically for the hostel, where there is a lack of learning tools and accessories to stimulate the children.

**DEPARTMENT OF CROP SCIENCES**

The following practical farming guidelines were developed:

RALIVHESA, K., VAN AVERBEKE, W. & SIEBRITS, F.K., 2013. Production guidelines for small-scale broiler enterprises. Water Research Commission Report TT 568/12. Gezina: The Water Research Commission. 33 pp.

VAN AVERBEKE, W., RALIVHESA, K., MBULI, S., KHOSA, T.B. & MANYELO, K.W., 2013. Growing green maize on canal schemes in Vhembe: Production guidelines. Water Research Commission Report TT 567/12. Gezina: The Water Research Commission. 34 pp.

The Department is also involved with community projects at Vukuzenzele in collaboration with Cullinan Diamond Mine, as well as another project with the Pulanala community of Mpumalanga. In 2013, a new project was initiated to cooperate with the Motsuenyane Foundation for Rural Development in Winterveldt and funded by SAB-Miller.

**DEPARTMENT OF ENVIRONMENTAL HEALTH**

Commemoration of World Food Day was held on the 17th of October 2013. This was in collaboration with Moretele Local Municipality which forms part of Bojanala District Municipality. Students registered for Food and Meat Hygiene III were fully involved and an outreach was done to old people of the Moretele community. Food parcels were distributed to the elderly sponsored by the Tshwane Fresh Produce Market, staff members and students from their pocket money. Presentations on healthy eating were delivered by students.

Phetogo project is a joint functional industry-university Environmental Health project. The aim of the project is to bridge the gap between academic and industrial Environmental Health programme through community research. This is a joint cooperation with Bojanala District Municipality. Although the project is still in a preliminary phase, several meetings were held including a workshop and relevant Environmental Health topics in line with community needs were identified.

**DEPARTMENT OF ENVIRONMENTAL WATER AND EARTH SCIENCES**

Matjiesfontein school: Dr Fourie has initiated a rural school academic development program in this small rural (historical) village in the Karoo. More specifically, two members of the Arcadia TUT library staff spent a few days in the small school library cataloging and inventorying existing books and a large number of books donated by TUT. Redundant TUT computers where repaired and also donated to the school and a new computer center was established. The impact these two centres will have on the children of Matjiesfontein will be great in terms of developing these young students ability in reading and information technology.

**DEPARTMENT OF HORTICULTURE**

The Department of Horticulture (represented by junior lecturer Mr SP Dladla) is involved in a project in Atteridgeville, where government wants to turn the old SANTA Hospital building into a facility for senior citizens. After a meeting with the stake holders in September 2013 the department agreed to look at the prospect of taking on the landscaping design of the centre as a project for student assignments. Signing of an MOU, documentation of project requirements and identification and prioritisation of projects will commence in 2014.

A pilot study on the effect of vegetable gardening and education was started at Child Welfare Tshwane, Sunnyside (represented by an M Tech student, Mr G Moletsane). The study focus on the effect of vegetable gardening on nutritional knowledge retention and vegetable consumption among Grade 1-4 learners, as a pilot study for the M Tech project. Children were taught principles of nutrition and vegetable gardening.

An MOU was signed between TUT and the Edakeni Muthi Futhi Trust (a community in Zululand, producing medicinal plants) to facilitate research collaboration for the development of production protocols for selected medicinal plants.

**DEPARTMENT OF NATURE CONSERVATION**

Ndumo Community Project

The flagship Ndumo Community project really did well in 2013. Three teacher facilitation workshops were presented during the year and two teachers from each school attended these workshops. There are now 19 schools and three nursery schools involved in the project; this includes the corridor area between Ndumo Game Reserve and Tembe Elephant Park. Twelve of the schools were also registered as ecoschools and all managed to achieve, a bronze, silver or the ecoschool flag. One school managed to maintain their platinum flag. The tribal authorities were also more involved in decision making pertaining to the environment and are now making wiser and greener decisions. We still have a long way to go, but the change can be seen. They were also exposed to the rhino horn infusion and therefore could relay better messages to the community after witnessing the event. The team really worked well together with the school learners. All schools received two environmental education sessions per month and these learners were also exposed to either Ndumo Game Reserve or Tembe Elephant Park. Here the learners received a full one day programme, which was very hands on and the learners then realised the importance of a protective area. The community was also trained in computer skills and the “Gogo’s knitting” club is really making a difference. Through these two programmes, the community can uplift their standard of living. The vegetable gardens were a huge asset this year, thanks to Bongani Mahlangu a crop science student who really has green fingers. He also presented vegetable garden workshops to ladies in the community as well as to the eco garden warriors. They are now planting crops at home. The team also celebrated special days in the community i.e. Arbor Day, World Environmental Day, Clean up Days, Rhino Day, Water week etc. Through these programmes the children are becoming more proactive and a difference can be seen, not only in and around the schools but in the community. The eco warrior and bird clubs are also doing well. During the year, we also managed to get e’Pap out into the community. This is a precooked cereal with 28 added nutrients which helps to improve the school learners’ energy and supports their immune system. This feeding scheme is mainly for orphans who have nothing. I call this Ndumo’s miracle pap, as all the orphans are now passing their tests and look well nourished.

The project will forge ahead in 2014.

**ADELAIDE TAMBO SCHOOL OF NURSING SCIENCE**

Adelaide Tambo School of Nursing Science initiated and manages a mobile clinic in Soshanguve ext. 12 and 13. The mobile clinic was funded by Atlantic Philanthropies from 2009 to 2013. The aim of developing the mobile Primary Health Care (PHC) Community Service in the informal settlement of Soshanguve was to provide community health learning opportunities for the B Tech: Nursing students of the Adelaide Tambo School of Nursing Science, while serving the community. This PHC service offers healthcare in the disciplines of mother and well-baby care, antenatal care, early childhood development, lifestyle diseases, cancer screening and palliative care.

**DEPARTMENT OF PHARMACEUTICAL SCIENCES**

LCM Oncology Hospital

* Somatology students visit the Hospital twice a week and perform treatments on patients, staff and family members of patients. The students are monitored by a TUT staff member and a LCM staff member.

Pretoria East Hospital

* Second year Somatology students performed treatments on the Nursing staff for nurses’ day.

South African Air Force College

* Second year Somatology students performed treatments on female soldiers and Ms Nkosi and Ms Komane-Mofokeng gave a presentation on health a wellness during the Women’s day celebration in August.

**DEPARTMENT OF PHYSICS**

* The Department of Physics has started two community projects. These are:
* Fire safety project targeting primary schools, and
* Assisting physics teaching at a secondary school.

**6. CO-OPERATIVE EDUCATION**

* 1. **Work Integrated Learning**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
| **Year** | **Subject Registrations** | **Subject Passes** | **Subject Not Completed** | **Success Rate** |
| 2009 | 1,228 | 984 | 243 | 80.1% |
| 2010 | 1,279 | 1,082 | 191 | 84.6% |
| 2011 | 1,102 | 936 | 160 | 84.9% |
| 2012 | 1,385 | 1,207 | 166 | 87.1% |
| 2013 | 1,366 | 1,226 | 134 | 89.8% |

More students were prepared for workplace this year which increased the work place readiness of those who were placed. Most of students who registered for work integrated learning were placed in industry and monitored. Improvement still needed on students preparation and monitoring.

**6.2 Advisory Committees**

**Department of Animal Sciences**

An Advisory Committee meeting was held on 1 November for Animal Production. This was attended by 7 members representing stakeholders from government, ARC, poultry industry and pig industry. Mr Mamabolo of the Department of Agriculture was appointed as chairman while Mr Mc Grath from the poultry industry will act as Deputy chair. The extended programme as well as the envisaged new qualification structure were discussed at length. Regular meetings are planned while the re-curriculation process is underway.

Although close collaboration exists between the Department and stakeholders of the Equine industry, no advisory committee meeting was held during the year. This is planned for early in 2014, before commencement of planning the new curriculum.

**Department of Chemistry**

No meeting was held in 2013. The advisory committee is scheduled to meet early in 2014 to be briefed about the curriculum redesign and positioning of the departmental programs in relation to industrial expectations in the fluctuating economy.

**Biotechnology & Food Technology**

Annual advisory committees were held on the 15th of November 2013. The advisory committees for both programs are very active and they make very valuable contributions, outside these meetings as well as during the meetings.

**Department of Crop Sciences**

None

**Department of Environmental Health**

A representative and well attended advisory committee was held on the 25th of November 2013. Different stakeholders from municipalities, private sector, professional board and SAIEH (South African Institute for Environmental Health) attended the meeting. A new and proper representative advisory committee was constituted from subject committees. The Department introduced subject committees (a subcommittee of the advisory board) in 2013 to advise lecturers on new trends and developments at industry. This will promote continuous improvement in subject offerings. The advisory committee meeting was conducted in a form of a workshop with break-away groups for specific subjects. Workshop discussions were centered around evaluation of academic standards and quality control of all core subjects in Environmental Health, needs of the industry, new developments and changes in the labour market which may affect the employment of graduates.

**Department of Environmental, Water & Earth Sciences**

Geology: 28 May 2013

Water Care 21 May 2013

**Department of Horticulture**

One advisory committee meeting was scheduled, but due to other responsibilities of committee members who were not available, the meeting was postponed to 2014.

**Department of Mathematics & Statistics**

An advisory committee meeting for the mathematics section was held on 8th October 2013. The main aim of the meeting was to discuss the structure of the Advanced and Postgraduate Diplomas in mathematics.

An advisory committee meeting for the quality section was held on 15th May 2013. The main aim of the meeting was also to discuss the structure of the Advanced and Postgraduate Diplomas in quality.

**Adelaide Tambo School of Nursing Science**

The advisory committee is functioning well. We had our advisory committee in May 2013. The meeting was well attended by both internal and external members.

**Department of Pharmaceutical Sciences**

A combined BPharm and BTech Pharmaceutical Sciences Advisory Committee meeting was held on the 2 December 2013. Valuable contributions and suggestion were made, members are to review BPharm modules guides and provide input from a practise perspective.

**Department of Physics**

Two Academic Advisory Committee (AAC) meetings of the two Physics programmes, namely, Industrial Physics and Fire Technology, were held in the course of the year.

In the case of the Academic Advisory Committee for Fire Technology, issues regarding admissions, South African Emergency Service Institute (SAESI) qualifications and related RPL were discussed. The concern that the admission requirements of SAESI are different and indeed lower as compared to that of TUT was raised. In future, a SAESI candidate would be required to write a comprehensive admission test on the three components of the programme, namely, the science, technology and management that would be based on 3rd year subjects. Also discussed was the issue of career path of the fire fighter.

Members of AAC of Industrial Physics assisted the department in mapping the way forward regarding WIL placement for students.

**Department of Sport, Rehabilitation & Dental Sciences**

In MOP, two meetings were held in May and November to attend to matters regarding TUT and industry. The November meeting was attended by suppliers discussing their role within MOP at TUT.

Due to unforeseen circumstances the Advisory Committee meeting was cancelled and a new suitable date could not be established in Dental Technology.

Dental Assisting had an Advisory Committee meeting in 2013. It was recommended that the lecturers attend a meeting of SADA in order to compile a list of dentists that can be accredited by TUT for Experiential Learning (WIL) purposes as per recommendation by the HPCSA. SADA issued an invitation to attend the first meeting in 2014.

OCS had one advisory committee meeting in 2013. It was confirmed that the merger with SET in the re-curriculation of qualifications would be more beneficial to students as the new programme (Diploma in Kinesiology specializing in Coaching) would provide prospective students with a larger scope of study. The programme will also attract more students as it will be unique to TUT.

**Department of Biomedical Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Department** | **Programme** | **(n) of meetings** | **Date of meetings** |
| Biomedical Sciences | Biomedical Technology | 1 | 18 October 2013 |
| Biomedical Sciences | Clinical Technology | 1 | 17 September 2013 |
| Biomedical Sciences | Radiography (Diagnostic) | 1 | 21 August 2013 |
| Biomedical Sciences | Veterinary Technology | 1 | 16 September 2013 |

**Comment:**

These meetings are valuable to academic programmes as they are an indication of industry participation in the particular programme. In most meetings PQM and curriculum design were on the agenda this year. In some programme Industry attendance was satisfactory and efforts are made to improve industry attendance in all programmes. Most departments held at least one meeting this year. This is an improvement from last year in this regard. Even though some departments did not have any meetings, efforts are made to improve the situation.

**6.3 Industry Liaison**

**Animal Science**

Since this Department has not have a farm for practical demonstrations in production subjects it is reliant on industry to conduct its practical. During practical visits and WIL visits all lecturers are connected and in consultation with different people from the industry.

Prof Siebrits serves on the Research committee of the SA Pork Producers Organisation as well as on the Pork committee of the Red Meat Research and Development Trust.

Dr D. Luseba serves on the Board of Trustees of the Indigenous Knowledge Systems of South Africa (iIKSSA)

Mr CJL du Toit is involved with the Red Meat producer's organization as a point of contact regarding greenhouse gas emissions.

**Department of Biotechnology & Food Technology**

Students in the Food Technology program frequently engage with industrial and professional members of the food industry community (information elsewhere in report). Factory visits, guest lectures, as well as attending lectures hosted by the various professional associations (e.g. SAAFoST, CST-SA and SASDT) are also arranged for the students to increase their exposure to the relevant industries. Staff and senior students of the department are also involved in giving information sessions to prospective students (high school level) at the annual TUT open day and different career Expo’s – the aim is to increase these activities during 2014. Biotechnology students and staff are also part of the annual exhibition of GDARD held at the Tshwane showground. Further contact with the industry is through the South African Society for Microbiologists (SASM) and networking with AfricaBio, PUB and other role players takes place.

**Department of Crop Sciences**

Prof W Van Averbeke presented two lectures at the annual international Local Economic Development Short Learning Programme, from 23 September to 04 October 2013 at the Cyril Ramaphosa Training Centre in Randburg.

**Department of Environmental Health**

Dr JC Engelbrecht acted as a specialist advisor of the Minister of Environmental Affairs on air quality appeals board for emission licenses appeals by industry

Dr JL Bekker has been appointed on the South African Bureau of Standards (SABS) technical committee for edible oils

Dr JL Bekker is the convener for the coordinating committee for meat industry training (CCMIT)

**Department of Environmental, Water & Earth Science**

TUT, through Dr Fourie, signed a contract with Transnet Engineering to secure 10 Train Coaches for the S&T Train.

An agreement was made through Dr Fourie with Copper Development Association Africa for the refurbishment of a Train Coach for the S&T Train.

Through Prof Jannie Maree, TUT-TCTA/Harmony Gold-Randfontein/DWA signed a contract for construction of R3M AMD treatment demonstration plant at Shaft 8 Randfontein as part of the short to medium term solution to AMD problem in the Western Basin

**Department of Horticulture**

Mrs L Marais, K Prinsloo and Mr SP Dladla were invited to act as judges at the Malanseuns Open days. Senior students were involved with designing and constructing display gardens at Garden Worlds Spring Festival as well as at Plantland-The Wilds, supervised by Mrs L Marais. The students from TUT: Department of Horticulture achieved excellent reviews from judges, being awarded three prizes at Garden World: (1) First prize: Water Wise garden. (2) First prize: Young Designers garden and (3) Overall Gold prize.

One of Mrs K Prinsloo’s B Tech Landscape Technology students designed a sensory educational garden at Babbelbekkies Kleuterkampus in Magalieskruin which was installed by Mrs Prinsloo during the December holidays.

Three M Tech students are involved in research projects in collaboration with the Agricultural Research Council (ARC)-Roodeplaat and two M Tech students are involved at ARC-Infruitec. .

**Department of Nature Conservation**

WILDLIFE RANCHING SA – ONGOING CONTACT AND INPUTS

SA National Parks and Conservation Departments of Gauteng, Limpopo, KZN, North West provinces.

**Department of Pharmaceutical Sciences**

Dr G Enslin was part of the SAPC monitoring team that visited Rhodes University in October 2013.

Dr Enslin was invited to be part of the international team that conducted quality review of the research conducted by Pharmacen at North West University in September 2013.

**Department of Sport, Rehabilitation & dental Sciences**

The OCS has engaged with industry and the following accredited courses were arranged and presented to the students to supplement their current qualification;

* IRB Rugby coaching and refereeing course
* World Badminton Federation coaching course.
* SAFA football coaching course
* Athletics South Africa coaching course
* Fitness instructors course
* Sport massage course

**7. INSTRUCTIONAL TECHNOLOGY**

With the refurbishment of the classrooms and laboratories on the Pretoria and Arcadia campus significant improvements have been made with regards to the minimum standards necessary to create a more conducive learning environment. Smart boards, Data Projectors and screens have been installed in the newly refurbished venues making it easier and more interactive teaching larger groups.

**8. EXTERNAL FUNDING**

[*Special funding received for* teaching and learning. Amounts and names of donors to be provided. Research funds not to be included here.]

**Department of Biomedical Sciences**

The following external funding was received:

* + Veterinary DHET Science Grant – R3 500 000
  + Clinical Technology DHET Clinical Training Grant - R476 039
  + Radiography DHET: Clinical Training Grant 2012/2013 – R757 726 and 2013/2014 – R798 914
  + Radiography Infrastructure and Efficiency Fund (DHET) – R1 250 000

Biomedical Technology DHET: Clinical Training Grant   
2012/2013 – R683 760 and 2013/2014 – R784 900

**Department of Environmental Health**

An amount of ± R224 000 is received annually from AgriSETA for Food and Meat Hygiene II. In 2013 the Department received an amount of R185 136.00 for 58 students.

**Department of Environmental, Water & Earth Sciences**

As part of the TUT, Faculty of Science application for the 2012/13 DoE Teaching and Development grant, our department was awarded the following:

R90 000 was approved for two staff members to study further towards doctoral degrees

R100 000 was approved to purchase Sangari I-box and clickers to aid undergraduate teaching.

**Department of Nature Conservation**

South African National Parks Honorary Rangers sponsorship for top students in Nature Conservation with the Game Capture Unit in the Kruger National Park has been ongoing for three years now with an estimated value of R80 000. Additional funding funding from SANParks also supports this. SANParks provide accommodation, uniform, training and guidance. Honorary Rangers sponsor the student stipend.

CATHSSETA also provided bursary support to 17 students to the value of ± R280 000 whilst WRSA supported five students to the value of R140 000.

**Adelaide Tambo School of Nursing Science**

The School received R1400038.00 from the Department of Higher Education via the IEF grant. A breakdown of the funding is R700000.00 for improving the teaching material in the skills laboratory, R700000 for enlarging the skills laboratory and R38000.00 for data projection equipment for the board room

**Department of Pharmaceutical Sciences**

Infrastructure and Efficiency funding of the DHET (round 1) was utilised to upgrade laboratories, classrooms and offices in the Department.

Funding was received from the Teaching Development Grant for teaching and learning facilitators for BPharm, tutors for somatology and staff development grants for staff improving their qualifications.

**Department of Sport, Rehabilitation & Dental Sciences**

Pick ‘n Pay donated a further R50,000 to MOP programme for the year 2012 / 2013. OTTO BOCK indicated that they will sponsor one of our staff members to do her master’s degree in 2012/2013. This funding is worth about R65000 per year.

**SECTION B: KEY PERFORMANCE INDICATORS**

**1. STUDENT OVERVIEW AND DEMOGRAPHICS**

**1.1 Student overview by campus (including Headcount, FTE Enrolments and Passes, Graduation and Success Rates)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Campus** | **Student Headcount** | **Graduates** | **Graduation Rate** | **FTE Enrolled** | **FTE Passed** | **Success Rate** |
| 2009 | PRETORIA CAMPUSES | 6,396 | 1,268 | 19.8% | 4,772.987 | 3,429.561 | 71.9% |
| SOSHANGUVE CAMPUSES | 190 | 161 | 84.7% | 164.501 | 109.010 | 66.3% |
| GA-RANKUWA CAMPUSES | 19 | 9 | 47.4% | 167.520 | 129.267 | 77.2% |
| eMALAHLENI CAMPUS | 3 | 1 | 33.3% | 155.834 | 76.337 | 49.0% |
| NELSPRUIT CAMPUS | 1 | 1 | 100.0% | 49.843 | 35.380 | 71.0% |
| POLOKWANE CAMPUS | 1 | 0 | 0.0% | 14.300 | 10.200 | 71.3% |
| OTHER CAMPUSES | 1 | 0 | 0.0% | 0.000 | 0.000 | 0.0% |
| **Total** | **6611** | **1,440** | **21.8%** | **5,324.985** | **3,789.755** | **71.2%** |
| 2010 | PRETORIA CAMPUSES | 6,613 | 1,385 | 20.9% | 4,778.770 | 3,522.680 | 73.7% |
| SOSHANGUVE CAMPUSES | 6 | 27 | 450.0% | 82.680 | 33.850 | 40.9% |
| GA-RANKUWA CAMPUSES | 3 | 7 | 233.3% | 178.280 | 90.320 | 50.7% |
| eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 121.600 | 57.500 | 47.3% |
| NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 47.250 | 19.850 | 42.0% |
| POLOKWANE CAMPUS | 0 | 0 | 0.0% | 18.700 | 10.300 | 55.1% |
| **Total** | **6622** | **1,419** | **21.4%** | **5,227.280** | **3,734.500** | **71.4%** |
| 2011 | PRETORIA CAMPUSES | 6,616 | 1,736 | 26.2% | 4,765.176 | 3,652.500 | 76.6% |
| SOSHANGUVE CAMPUSES | 1 | 12 | 1200.0% | 136.908 | 90.676 | 66.2% |
| GA-RANKUWA CAMPUSES | 0 | 2 | 0.0% | 195.975 | 110.150 | 56.2% |
| eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 90.900 | 48.400 | 53.2% |
| NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 46.232 | 22.044 | 47.7% |
| POLOKWANE CAMPUS | 0 | 0 | 0.0% | 16.500 | 6.300 | 38.2% |
| **Total** | **6617** | **1,750** | **26.4%** | **5,251.691** | **3,930.070** | **74.8%** |
| 2012 | PRETORIA CAMPUSES | 6,767 | 1,693 | 25.0% | 4,792.852 | 3,639.774 | 75.9% |
| SOSHANGUVE CAMPUSES | 2 | 4 | 200.0% | 77.201 | 43.477 | 56.3% |
| GA-RANKUWA CAMPUSES | 0 | 2 | 0.0% | 186.325 | 116.875 | 62.7% |
| eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 73.334 | 43.545 | 59.4% |
| NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 44.502 | 30.604 | 68.8% |
| POLOKWANE CAMPUS | 0 | 0 | 0.0% | 16.500 | 10.100 | 61.2% |
| **Total** | **6769** | **1,699** | **25.1%** | **5,190.714** | **3,884.375** | **74.8%** |
| 2013 | PRETORIA CAMPUSES | 6,910 | 1,576 | 22.8% | 4,933.431 | 3,825.190 | 77.5% |
| SOSHANGUVE CAMPUSES | 1 | 5 | 500.0% | 66.251 | 34.544 | 52.1% |
| GA-RANKUWA CAMPUSES | 0 | 0 | 0.0% | 188.279 | 131.839 | 70.0% |
| eMALAHLENI CAMPUS | 0 | 0 | 0.0% | 107.408 | 77.546 | 72.2% |
| NELSPRUIT CAMPUS | 0 | 0 | 0.0% | 49.048 | 31.842 | 64.9% |
| POLOKWANE CAMPUS | 0 | 0 | 0.0% | 13.500 | 8.600 | 63.7% |
| **Total** | **6911** | **1,581** | **22.9%** | **5,357.917** | **4,109.561** | **76.7%** |

The Faculty has seen very positive growth with regards to its student success rate over the last couple of years. Student

success rate for undergraduate studies increased to 76.7% in 2013. The Faculty is now starting to see the results

from its improvement plans being implemented. In line with the student success rate the graduation rate of the Faculty

also remained in 2013.

**1.2 Student headcount by mode of instruction (contact/distance)**

|  |  |  |
| --- | --- | --- |
|  | | |
| **Year** | **Contact mode** | **Total** |
| 2009 | 6,611 | 6,611 |
| 2010 | 6,622 | 6,622 |
| 2011 | 6,617 | 6,617 |
| 2012 | 6,769 | 6,769 |
| 2013 | 6,911 | 6,911 |

The student headcount has remained very stable within the Faculty averaging around 6700 for the past 5 years. 2012 has seen an increase of 142 students compared to 2012.

**1.3 Student headcount by race, gender and disability (D/A)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  | | --- | |  | | | | | | | | | | | | | | | |
| **Year** | |  | | --- | | **African** | | | | |  | | --- | | **Coloured** | | | |  | | --- | | **Indian** | | | |  | | --- | | **White** | | | | **Total F** | **Total M** | **Total Disability** | **Total** |
| **F** | **M** | **D** | **F** | **M** | **F** | **M** | **F** | **M** | **D** |
| 2009 | 3,239 | 2,229 | 5 | 36 | 35 | 15 | 21 | 544 | 492 | 4 | 3,834 | 2,777 | 9 | 6,611 |
| 2010 | 3,321 | 2,222 | 2 | 36 | 27 | 16 | 17 | 523 | 460 | 3 | 3,896 | 2,726 | 5 | 6,622 |
| 2011 | 3,321 | 2,316 | 6 | 25 | 24 | 16 | 21 | 474 | 420 | 5 | 3,836 | 2,781 | 11 | 6,617 |
| 2012 | 3,441 | 2,414 | 10 | 23 | 22 | 14 | 18 | 447 | 390 | 6 | 3,925 | 2,844 | 16 | 6,769 |
| 2013 | 3,592 | 2,435 | 7 | 28 | 20 | 14 | 19 | 422 | 381 | 4 | 4,056 | 2,855 | 11 | 6,911 |

**1.4 Number of students in foundation programmes**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **Qualification Headcount** | **2009** | **2010** | **2011** | **2012** | **2013** |
| B TECH NURSING SCIENCE (EXTENDED) | 157 | 104 | 97 | 113 | 169 |
| N DIP ANALYTICAL CHEMISTRY (EXTENDED) | 590 | 243 | 336 | 371 | 328 |
| N DIP BIOTECHNOLOGY (EXTENDED) | 174 | 142 | 377 | 400 | 446 |
| N DIP DENTAL TECHNOLOGY (EXTENDED) | 16 |  |  |  |  |
| N DIP ENVIRONMENTAL SCIENCES |  |  |  |  | 136 |
| N DIP FOOD TECHNOLOGY (EXTENDED) | 163 | 139 | 301 | 451 | 369 |
| N DIP GEOLOGY |  |  |  |  | 209 |
| N DIP VETERINARY TECHNOLOGY |  |  |  |  | 146 |
| N DIP WATER CARE (EXTENDED) | 416 | 275 | 251 | 334 | 211 |

**2. FACULTY STUDENT HEADCOUNT ENROLMENTS**

* 1. **Headcount Enrolments by Major Field of Study**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **Major Field of Study** | |  | | --- | | **Headcount Enrolments** | | | | | |
| **2009** | **2010** | **2011** | **2012** | **2013** |
| BUS/MAN |  | 61 | 52 | 52 | 49 |
| EDUCATION |  | 23 |  |  |  |
| OTHER HUM | 570 |  |  | 1 |  |
| SET | 6,041 | 6,538 | 6,565 | 6,717 | 6,862 |
| **Total** | **6,611** | **6,622** | **6,617** | **6,769** | **6,911** |

* 1. **Headcount Enrolments by Qualification Type**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **Qualification Type** | |  | | --- | | **Headcount Enrolments** | | | | | |
| **2009** | **2010** | **2011** | **2012** | **2013** |
| Diplomas and Certificates | 4,496 | 4,584 | 4,551 | 4,624 | 4,601 |
| Degrees | 1,690 | 1,748 | 1,730 | 1,811 | 1,977 |
| **Undergraduate Total** | **6186** | **6332** | **6281** | **6435** | **6578** |
| Masters | 173 | 200 | 221 | 219 | 243 |
| Doctoral | 67 | 67 | 68 | 82 | 88 |
| **Postgraduate Total** | **240** | **267** | **289** | **301** | **331** |
| Occasional | 185 | 23 | 47 | 33 | 2 |
| **Total** | **6,611** | **6,622** | **6,617** | **6,769** | **6,911** |

The Faculty has reached some stability and will not be able to grow unless additional infrastructure can be added and more staff appointed.

**3. GRADUATION OVERVIEW**

**3.1 Graduates by Major Field of Study**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **Major Field of Study** | **Graduates** | | | | |
| **2009** | **2010** | **2011** | **2012** | **2013** |
| BUS/MAN |  | 22 | 22 | 16 | 31 |
| EDUCATION |  | 0 |  |  |  |
| OTHER HUM | 142 |  |  | 0 |  |
| SET | 1,298 | 1,397 | 1,728 | 1,683 | 1,550 |
| **Total** | **1,440** | **1,419** | **1,750** | **1,699** | **1,581** |

* 1. **Graduates by Qualification Type**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **Qualification Type** | **Graduates** | | | | |
| **2009** | **2010** | **2011** | **2012** | **2013** |
| Diplomas and Certificates | 826 | 816 | 977 | 996 | 859 |
| Degrees | 580 | 575 | 724 | 639 | 670 |
| **Undergraduate Total** | **1,406** | **1,391** | **1,701** | **1,635** | **1,529** |
| Masters | 26 | 21 | 38 | 50 | 42 |
| Doctoral | 8 | 7 | 11 | 14 | 10 |
| **Postgraduate Total** | **34** | **28** | **49** | **64** | **52** |
| Occasional | 0 | 0 | 0 | 0 | 0 |
| **Total** | **1,440** | **1,419** | **1,750** | **1,699** | **1,581** |

* 1. **Graduates by First Order CESM**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **First Order CESM** | **Graduates** | | | | |
| **2009** | **2010** | **2011** | **2012** | **2013** |
| Agriculture and Renewable Natural Resources | 363 |  |  |  |  |
| Agriculture, Agricultural Operations And Related Sciences |  | 401 | 473 | 496 | 452 |
| Architecture and Environmental Design | 4 |  |  |  |  |
| Business, Economics And Management Studies |  | 22 | 22 | 16 | 31 |
| Education |  | 0 |  |  |  |
| Engineering |  | 14 |  |  |  |
| Health Care and Health Sciences | 594 |  |  |  |  |
| Health Professions And Related Clinical Sciences |  | 537 | 745 | 728 | 621 |
| Home Economics | 39 |  |  |  |  |
| Industrial Arts, Trades and Technology | 26 |  |  |  |  |
| Law |  |  |  | 0 |  |
| Life Sciences |  | 132 | 150 | 170 | 168 |
| Life Sciences and Physical Sciences | 269 |  |  |  |  |
| Mathematical Sciences | 3 |  |  |  |  |
| Mathematics And Statistics |  | 13 | 8 | 7 | 12 |
| Physical Education, Health Education and Leisure | 60 |  |  |  |  |
| Physical Sciences |  | 300 | 352 | 282 | 297 |
| Public Administration and Social Services | 82 |  |  |  |  |
| **Total** | **1,440** | **1,419** | **1,750** | **1,699** | **1,581** |

**4. RESEARCH AND RESEARCH OUTPUT**

**4.1 Publications**

**Accredited research output: Publications (units per PTS)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2010** | | | **2011** | | | **2012** | | | **2013** | | |
| **Units** | **PTS** | **Ratio** | **Units** | **PTS** | **Ratio** | **Units** | **PTS** | **Ratio** | **Units** | **PTS** | **Ratio** |
| 57.60 | 205 | 0.28 | 71.23 | 201 | 0.35 | 63.5 | 202 | 0.31 | 82.5 | 206 | 0.40 |

2013 was an extremely successful year for research in the Faculty in terms of publications. The actual individual articles were more than 150 but the final verification must still be done.

**4.2 International visits**

**Department Animal Science**

Prof Siebrits – Foshan, China

**Department of Environmental Health**

Mokgobu MI attended a workshop on project proposal writing as part of the SNOWS project in June 2013. Workshop was hosted by Mbarara University in Uganda.

Mokgobu MI attended an annual general meeting for the SNOWS project at Uganda in July 2013 (Mbarara University)

Mudau LS took sabbatical leave in April for a period of 3 months to spend time with her supervisor (Prof P Hunter) at University of East Anglia. The Supervisors’ responsibility was to assist her with data analysis.

**Department of Environmental, Water & Earth Science**

Non-conference related international visits were dominated by course-orientated visits to the Netherlands where our staff are sponsored training by NUFFIC in water treatment technologies that is later to be implemented in a revised curriculum in our undergraduate programs.

|  |  |  |
| --- | --- | --- |
| **Staff member** | **Destination** | **Reason for visit** |
| Ray Jansen | Kenya | NRF supported collaborative research projects on persistent pollutants in selected African avifauna |
| Lizzy Monyatsi, Boitumelo Mankazana, Pieter Kotze, Martie Coetzee | Netherlands | To attend NUFFIC short course |

**Department of Pharmaceutical Sciences**

Prof A Viljoen, Dr I Vermaak and Ms N Mncwangi attended the 12th Annual Oxford International Conference on the Science of Botanicals which was held in Oxford, Mississippi, from 15-18 April 20.

Ms N Mncwangi presented a seminar entitled: Metabolomic profiling and quality control of *Harpagophytum* spp. (Devil’s Claw) at The University of Mississippi, National Centre for Natural Product Research.

Dr Clemence Tarirai presented a poster at the 5th BBBB International Conference, Athens Greece, 23-26 September 2013.

**Department of Sport, Rehabilitation & Dental Sciences**

Ms Schmidt visited Scotland for a residential week and examination at Strathclyde University in Glasgow.

Mr. J Jooste attended a conference in France, Paris organized by the European Federation of Sport Psychology.

Prof A.L. Toriola a keynote address at an international conference in Tianjin, China.

**4.3 Visiting researchers**

**Department of Animal Science**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Prof Wang Yunbo | China | 6 days | Collaboration |
| Yufanyi, DM | Cameroon | 01/09/12-31/08/13 | Post-doc Fellow |

**Department of Crop Science**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| P Hebinck | The Netherlands | 2 days | Book chapter |
| G Baert | Belgium | 1 day | Joint proposal |
| J Helder | The Netherlands | 1 day | LED course |
| DI Leskovar  JL Jifon  K Crosby | USA | 2 weeks in January and one week in November | Discussion with postgraduate students, and participate in Combined Congress 2013. Assist to establish a fruit orchard at Ukulima, Modimolle, with improved varieties from the ARC. |

**Department of Mathematics & Statistics**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Prof TH Fay | USA | 30 days (September 2013) | Scientific research |
| Professor  H Porst | Germany | 2 weeks (April 2013) | Research and lecture. |

**Department of Pharmaceutical Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** | ***Country*** | ***Duration of visit*** | ***Purpose of visit*** |
| Theo De Rijk  Paul Zommer | RIKILT Wageningen UR | 17 – 23 October 2013 | Training of the analysis of aflatoxin M1 in urine |

**4.4 Conference participation**

***Department of Animal Science***

*Participation at international conferences, symposia, etc.*

1. Greenhouse gases & Animal Agriculture Conference. Dublin 23 - 26 June 2013. Poster paper presented: “Methane emissions of the South African sheep industry” - C.J.L. du Toit, W.A. van Niekerk & H.H. Meissner.

*Participation at national conferences, symposia, etc.*

1. Siebrits- poster
2. Luseba- oral

**Department of Biotechnology & Food technology**

## *Participation at international conferences, symposia, etc.*

### Oral presentations:

* Nyanzi, R., Jooste, P.J., Eloff, J.N., Wright, S.C. 2013. Phylogenetic analysis and possible practical applications of potentially probiotic Lactobacillus isolates. Oral presentation at the 20th SAAFoST International Congress and Exhibition7 – 9 October 2013, CSIR Convention Centre, Pretoria, South Africa.
* Jooste, P.J. 2013. Understanding the origin, control and nature of food-borne safety hazards. Keynote address at the 46th Annual General Meeting and Symposium of the S A Society of Dairy Technology with the theme “Food Safety and Security- A Dairy Perspective” held from 16 to 19 April, 2013 at Kaya Ibhubesi, Parys, Free State Province.
* Jooste, P.J. 2013. Identifying modern technologies to enhance food safey in the food industry. Invited address 3rd Annual Food Safety Conference, Craighall, Hackle Brooke, Johannesburg, 18 September 2013
* Nyanzi, R, Jooste, P J, Eloff, J N. 2013. Identification and properties of probiotic bacteria for application in a cereal beverage. Accepted for an oral presentation at the Faculty Research Day of the Faculty of Science, Tshwane University of Technology. 14 August 2013.

### Poster presentations:

* Nyanzi, R., Eloff, J.N., Jooste, P.J. 2013. Antioxidant activity of probiotic extracts with anti-candida and antibacterial activity. Poster presentation at the 20th SAAFoST International Congress and Exhibition7 – 9 October 2013, CSIR Convention Centre, Pretoria, South Africa
* Mrs Theresa de Beer (M Tech: Food Technology) (poster presentation);
* Ms Zanile Skhosana (M Tech: Food Technology)(poster presentation);
* Ms Thato Mayaapelo (M Tech: Biotechnology)(poster presentation);
* Ms Erika Jordaan presented a poster (D Tech: Biotechnology)
* Ms Erika Jordaan presented a poster at the Faculty Research Day of the Faculty of Science, Tshwane University of Technology. 14 August 2013.

## *Participation at national conferences, symposia, etc*.

20th SAAFoST Biennial International Congress and Exhibition, 7-9 October 2013, CSIR International Convention Centre, Pretoria.

* Staff who attended: Prof Piet Jooste, Ms Erika Jordaan, Dr Laura da Silva, Mrs Belinda du Plessis (Member of organising committee), Ms Elbie Beukes and Mr Charles van Rooi.
* Students who attended: Mrs Theresa de Beer (M Tech: Food Technology) (poster presentation); Ms Zanile Skhosana (M Tech: Food Technology)(poster presentation); Ms Thato Mayaapelo (M Tech: Biotechnology)(poster presentation); Ms Jordaan presented a poster (D Tech: Biotechnology)
* Dr da Silva and Ms Jordaan were invited to act as judges: The Ginsberg Award, for the best poster presentation, a highlight of the conference for young scientists.

**Department of Biomedical Sciences**

*PARTICIPATION AT INTERNATIONAL CONFERENCES, SYMPOSIA, ETC.*

Du Toit, D. – 5th Meeting of the European Commission International Dialogue on Bioethics, 17-18 September 2013 in Brussels, Belgium.

Boshoff, CI – presented a poster “Assessment of African Swine Fever status in Swaziland, Southern Africa” at the 7th Epizone Annual Meeting, Nothing permanent, except change, Brussels, Belgium, 1 – 4 October 2013.

Hoffmann, WA - 9th World Conference on Bioethics, Medical Ethics and Health Law, Naples, Italy, 19-21 Nov 2013.  Oral presentation: Bioethics education in a South African University of Technology - A multidimensional best practice approach.

Maepa J & Motaung SCKM - Stimulation of COLL-II by resveratrol in superficial and middle zone of articular chondrocytes. 4th Annual World Congress of NanoMedicine-2013, June 5-7 in Suzhou, China.

Motaung SCKM (Invited Speaker): Stimulation of COLL-II by resveratrol in superficial and middle zone of articular chondrocytes.4th Annual World Congress of NanoMedicine-2013, June 5-7 in Suzhou, China.

Motaung SCKM (Invited Speaker): The effect of medicinal plant in tissue regeneration of articular cartilage. International Conference and Exhibition on Pharmacognosy, Phytochemistry & Natural Products (Pharmacognosy-2013) October 21-23, 2013, Hyderabad, India.

Motaung SCKM (Invited Speaker): Tissue Engineering of articular cartilage: Current Reality and the Future. Regenerative Medicine special lecture series hosted by The College of Natural Sciences and Mathematics in collaboration with Pan African Studies, Women’s Studies and Cooper-Woodson College Enhancement Program, California State University, USA, Sacramento. 17 September 2013.

Motaung SCKM (Keynote Speaker): The future of stem cells and tissue engineering in the African Continent. 11th Annual Congress of African Peoples Convening Congress of African Peoples, Focus on Africa: Economics, Education and Culture. 14th September 2013, Women's Civic Improvement Club (WCIC), 3555 3rd Av, Sacramento, USA.

Motaung SCKM (Invited Speaker): The role of resveratrol in tissue regeneration of articular cartilage. 2nd International Conference and Exhibition on Orthopedics & Rheumatology (Orthopedics & Rheumatology-2013), August 19-21, 2013, Embassy Suites Las Vegas, USA.

*PARTICIPATION AT NATIONAL CONFERENCES, SYMPOSIA, ETC.*

Maepa J & Motaung SCKM. Induction of collagen type-II in the superficial and middle zone of articular cartilage by resveratrol. Laboratory Medicine Congress (LMC) 2013. 28th July –31st July 2013 at the Cape Town International Convention Centre.

Razwinani M & Motaung SCKM. Phytochemical screening and cytotoxicity activity of crude extracts from Pleurostylia capensis (Celastracea). Laboratory Medicine Congress (LMC) 2013. 28th July –31st July 2013 at the Cape Town International Convention Centre.

Molaba GM & Motaung SCKM. The expression of collagen type –II in articular cartilage in response to bone morphogenetic protein -7 and resveratrol. Laboratory Medicine Congress (LMC) 2013. 28th July –31st July 2013 at the Cape Town International Convention Centre.

Hoffmann, WA - Workshop Presenter: Research Ethics Workshop for REC members of the College of Economic and Management Sciences and the Graduate School of Business Leadership, University of South Africa (UNISA).  Venue: River Meadow Manor, Irene, 20-21 Feb 2013.  Workshop sessions: 1) Foundations of Bioethics, 2) Regulatory context of research ethics, and 3) REC Standard Operating Procedures and Processes.

Motaung SCKM (Invited Speaker): Tissue Engineering and Regenerative Medicine: Current Reality and the Future. Seminar series of the Faculty of Natural Sciences at Mangosuthu University of Technology. 15 October 2013.

Motaung SCKM (Invited Speaker): Ensuring proper guidance and implementing guidelines on training of new researchers to adhere to research best practice. Combating Scientific Misconduct and Research Irregularities Summit 2013 on the 23rd to 25th October 2013 Sandton, Johannesburg, South Africa.

Motaung SCKM: (Invited Speaker): Tissue engineering as a discipline in the medical field of study. The future of tissue engineering in South Africa. Biotechnology World Touch Screen Outreach and Awareness Programme, Moipone Academy, Gauteng, Tembisa 19 February 2013.

Hoffmann, WA - “Vulnerability and Personal Integrity - Looking behind the masks”.  Invited Ethics presentation, Society of Radiographers of South Africa, Pretoria Branch, Professional Development Programme, Tshwane, South Africa, February 21, 2013.  Audience (~30 persons): Radiographers.

Hoffmann, WA - “Integrity and Dignity - Two sides of the Ethics coin?”  Invited Ethics presentation, Vista Clinic Continuous Professional Development Programme, Tshwane, South Africa, June 14, 2013.  Audience (~200 persons): Psychiatrists, psychologists, psychometrists, social workers, occupational therapists, psychiatric nurses.

Hoffmann, WA - Workshop presenter: Research Ethics Workshop for postgraduate supervisors, Graduate School of Business Leadership (SBL), University of South Africa (UNISA).  Venue: SBL Boardroom, Midrand, 17 Oct 2013.

Steenkamp-Jonker, S - Department of Biology, University of Limpopo, Medunsa Campus, Research day 22 November 2013. Oral Presentation: Morphological characterization of *Echinococcus felidis*.

Dr J Shai and Ms MA Chauke - Indigenous Plant Use Forum. Oral Presentation. Diabetes Research at TUT: Progress report; Nelspruit, July 2013.

Smit, SR - attended the SORSA-RSSA 2013 Imaging Congress which was held from 23 to 25 August at the ICC Durban in South Africa.

**Department of Chemistry**

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| ***Name*** | ***Country*** | ***Duration of visit*** | ***Type of visit*** | ***Presentation\**** |
| Mokgalaka, NS | France | 24/2-27/3/13 | Workshop (HERULES) | Training school |
| Mokgalaka, NS | USA | 17-21/3/13 | Conference (Pittcon) | Poster |
| Melato, FA | USA | 17-21/3/13 | Conference (Pittcon) | Poster |
|  |  |  |  |  |
| McCrindle, RI | Norway | 17-20/6/13 | Conference (CSI) | Oral |
| McCrindle, RI | Germany | 5 days | Workshop (SA/Germany) | Workshop |
| Panichev, N | Greece | 13/5/13 | Conference (6th International Conference on  Clean Coal Technologies) | Oral |
| Panichev, N | Norway | 17-20/6/13 | Conference (CSI) | Oral |
| Nokwequ, MG | France | 07-12/7/13 | Conference (ESOC) | Poster |
| Gamedze, MP | France | 07-12/7/13 | Conference (ESOC) | Poster |
| Mokgalaka, NS | South Africa | 07-12/7/13 | Conference (ICCA) | Organizing Committee |
| Nkambule, CM | South Africa | 07-12/7/13 | Conference (ICCA) | Organizing Committee |
| Maphoru, MV | South Africa | 07-12/7/13 | Conference (ICCA) | Oral |
| Mbom, DY | South Africa | 07-12/7/13 | Conference (ICCA) | Oral |
| Marais, AF | South Africa | 07-12/7/13 | Conference (ICCA) | Oral |
| Ndibewu, PP | South Africa | 07-12/7/13 | Conference (ICCA) | Poster |
| Lefakane, TE | South Africa | 07-12/7/13 | Conference (ICCA) | Poster |
| Mnisi, RL | South Africa | 07-12/7/13 | Conference (ICCA) | Poster |
| Phala, MPK | South Africa | 07-12/7/13 | Conference (ICCA) | Poster |
| Ncongwane, JB | South Africa | 07-12/7/13 | Conference (ICCA) | Poster |
| Mokoena, EM | South Africa | 07-12/7/13 | Conference (ICCA) | Poster |
| Panichev, N | South Africa | 16-18/7/13 | Conference (SAYWPC) | Poster |
| Langa, S | South Africa | 17-20/11/13 | Conference (CATSA) | Oral |
| Maphoru, MV | South Africa | 17-20/11/13 | Conference (CATSA) | Poster |
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| Nokwequ, MG | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Maseko, RB | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Tadesse, EK | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Mnisi, RL | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Phala, MPK | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Mashigo, MF | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Ncongwane, JB | South Africa | 01-06/12/13 | Conference (SACI) | Oral |
| Ndibewu, PP | South Africa | 01-06/12/13 | Conference (SACI) | Poster |
| Mokoena, EM | South Africa | 01-06/12/13 | Conference (SACI) | Poster |
| Lefakane, TE | South Africa | 01-06/12/13 | Conference (SACI) | Poster |
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**Department of Crop Sciences**

*Participation at national conferences, symposia, etc.*

The Department participated at *Combined Congress 2013, Durban, from 21 to 24 January. A total of 12 oral papers and six posters were presented. Three visiting professors (D.I Leskovar, J.L. Jifon, and K Crosby) from Texas A&M presented papers and also chaired sessions at the Congress.*

*Oral papers:*

GYOGLUU, C. BOAHEN, S.K. & DAKORA, F.D. Symbiotic nitrogen fixation and carbo assimilation in promiscuous and non-promiscuous soybean genotypes inoculated with *Bradyrhizobium japonicum*.

JIFON, J.L., SIVAKUMAR, D. CROSBY, K., SOUNDY, P. & LESKOVAR, D.I. Grafting technology to manage biotic and abiotic stresses.

KANU, S.A., DAKORA, F.D., CHIMPANGO, S.B. & SPRENT, J.I. Re-classification of members of the Psoraleae in the tribe Phaseoleae.

LESKOVAR, D.I., CROSBY, K., JIFON, J.L., SOUNDY, P. & SIVAKUMAR, D. Impact of deficit irrigation and planting density on growth, quality and yield of spinach and onion.

MAKHURA, M.P., MATTHEWS, C. & DAKORA, F.D. Enhancement of symbiotic response and seed yield with Rhizobium and different genotypes of chickpea (*Cicer arientinum* L.)

MAPOPE, N. & DAKORA, F.D. Acid phosphatase activity and P nutrition in soybean (*Glycine max* (L.) Merr.) genotypes under field conditions in South Africa.

MASEKO, S.T. & DAKORA, F.D. Role of acid phosphatase activity in soil and organ P nutrition of *Cyclopia* species in the Cape fynbos.

MASEVHE, M.R., TAYLOR, N.J. & SOUNDY, P. Alternative substrates for cultivating oyster mushroom (*Pleurotus ostreatus*).

NTSHABELE, P.M., SOUNDY, P. & APOSTOLIDES, Z. The seasonal effects on chemical composition of *Pelargonium sidoides* (Geraniaceae).

NTSOANE, M.L., SHITTU, T.A., SIVAKUMAR, D. & SOUNDY, P. Agronomic and fresh quality traits of lettuce grown under coloured shade nets.

RADZILANI, T., SCHOEMAN, P.S., BOTHA, B. & DE LANGE, H.C. Review of trap crop management strategies to control stink bugs in macadamia orchards.

TINYANE, P.P., MABOKO, M.M., SIVAKUMAR, D. & SOUNDY, P. Evaluation of photo-selective netting on tomato plant growth and yield.

*Posters:*

KGOPA, P.M., MOSHIA, M.E. & SHAKER, P. Site-specific soil pH management across spatially variable soils.

MASHEGO, S. PETLA, B.M., MOSHIA, M.E., MAILULA, N., SHAKER, P., LEKALAKALA, R.G., DIKGWATLHE, S.B. & MUSHADU, W.G. Maize grain yield comparison under conventional and site-specific nitrogen management in a dryland farming system.

MOKOBANE, K.F., MATTHEWS, C. & DAKORA, F.D. Evaluating mungbean genotypes for enhanced symbiotic N2-fixation, water-relation and grain yield under field conditions at Mpumalanga, South Africa.

MURWA, K.M., MATTHEWS, C. & DAKORA, F.D. Symbiotic N nutrition and C accumulation of pigeonpea rationed genotypes at Nelspruit, South Africa.

SIRAKALALA, K. & MOSHIA, M.E. Probable error of sampling on assimilated patches across site-specific management zones.

ZWANE, J.P. MATTHEWS, C. DAKORA, F.D. The effect of inoculation and seaweed extract (Kelpak) on host plants of selected legumes.

*The Department also participated at the First Post-Harvest Innovation Programme Symposium, Spier Estate, Stellenbosch, from 19 to 20 November 2013. A total of three oral papers were presented.*

KORSTEN, L. VAN DEVENTER, F., HARRIS, M. DU PLESSIS, E. & SIVAKUMAR, D. Improving post harvest quality of mangoes and ensuring safety of the final product.

MAFUNE, M., CINDI, M., SELLAMUTHU, P.S., SHITTUA, T, JAYARAMUDU, J., SADIKU, R., SOUNDY, P. & SIVAKUMAR, D. Developing environmentally friendly post-harvest disease control methods for peaches and avocados.

BILL, M., SIVAKUMAR, D. & KORSTEN, L. The effect of edible coatings in combination with thyme oil on anthracnose incidence in avocado (*Persea americana* Mill.) during post-harvest storage.

**Department of Environmental Health**

*Participation at international conferences, symposia, etc***.**

Harmse JL, AVA Africa 2013. Occupational Health in poultry abattoirs. Emperors Palace. 28 May 2013. (Oral presentation)

Engelbrecht JC, SNOWS conference for young scientists. The Ranch. 22-30 May 2013. (Chairperson of a session)

*Participation at national conferences, symposia, etc*.

Bekker JL. Southern African Wildlife Management Association (SAWMA) Symposium. Kruger National Park. 15-19 September 2013. (Oral Presentation)

**Department of Environmental, Water & Earth Sciences**

*Participation at international conferences, symposia, etc.*

Four oral presentations were made in the USA and Korea by academic staff and students during 2013.

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| **Staff member** | **Destination** | **Conference name** | **Type of presentation** |
| JP Maree | Colorado, USA | Annual Conference of International Mine Water Association | Oral |
| JO Okonkwo, T Chokwe, M Mnisi, KK Kefeni | San Francisco, USA | International symposium on flame retardants | Oral |
| JO Okonkwo, N Mutshatshi | Daegu, Korea | 33rd international symposium on halogenated POPs | Oral |
| I Kamika & MNB Momba | Golden Colorado, USA | IMWA2013: Reliable mine water technology | Poster & oral |

*Participation at national conferences, symposia, etc.*

Presentations were made by academic members of staff and their post graduate students at five national conferences in 2013.

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| **Staff / student** | **Destination** | **Conference name** | **Type** |
| R Jansen | NZG Pretoria | NZG annual research colloquium | Oral |
| JP Paree | Stellenbosch | Third Regional Conference of The Southern African Young Water Professionals | Oral |
| JP Maree | Parys, Free State | Conference on Research in Coal Science and Technology | Oral |
| M Moyo, J Brandao & JO Okonkwo | Pretoria | International chemistry conference for Africa | Oral |
| GZ Teklehaimanot, L Katchienga, MAA Coetzee & MNB Momba | Sun City | 4th Municipality water Quality Conference | 2 x Oral |

**Department of Horticulture**

*Participation at national conferences, symposia, etc.*

Mrs K Prinsloo attended a colloquium at UNISA during November 2013. Title: “*Some new trends in Urban Parks Management*”.

**Department of Mathematics & Statistics**

*Participation at international conferences, symposia, etc.*

* Professor SV Joubert delivered a paper entitled Bryan’s effect and nonlinear damping at the 8th Conference on Applied Mathematics and Scientific Computing in Sibenik, Croatia fro 10-14 June 2013.
* Professor JC Greeff delivered a paper entitled Stability of a predator-prey model with predator population saturation at the 8th Conference on Applied Mathematics and Scientific Computing in Sibenik, Croatia from 10-14 June 2013.
* Professor TH Fay delivered a paper entitled The Van Der Pol Equation: an Energy Perspective at the 8th Conference on Applied Mathematics and Scientific Computing in Sibenik, Croatia fro 10-14 June.
* Mr M.C Kekana attended the International Conference on Computational and Mathematical method in Science and Engineering from 25 to 27 September in Vaal University of Technology, South Africa. The title of his paper was: The Adomian Decomposition method for solving non-linear differential equations.
* Prof M.Y. Shatalov visited the Institute for Problems in Mechanics of the Russian Academy of Science (17-28 June 2013) where he met with Prof. A. Manzhirov, A. Polyanin and V. Zhuravlev and discussed the problems of growing bodies, exact integration of PDE and theory of vibratory gyroscopes.He also visited the Lomonosov’s Moscow State University (01-04 July 2013) where he met with Dr. B. Lunin and discussed the problems of the vibratory gyro balancing.
* Mr Motsima delivered a paper entitled: Determinants of under-five mortality at the XXXIV. ICPD 2013: International Conference on Population and Development, Paris for 30-31 December 2013.
* Mr KA Motsepe delivered a paper entitled: Application of Heun functions in classical mechanics, theirs numerical computation and accuracy estimation at the International Conference on Computational and Mathematical Methods in Science and Engineering (ICCMSE-VUT 2013), Vaal University of Technology, Vanderbijlpark September 25 – 27, 2013.
* Mr M Naidoo visited the University of Amsterdam (UvA) for 1 month in September/October 2013 as part of the ongoing joint research in eMathematics.

*Participation at national conferences, symposia, etc***.**

The following people participated in local events during 2013.

* Profs Joubert and Fay gave plenary talks at the NMMU annual Postgraduate seminar in Port Elizabeth that was held from 26-28 September 2013, entitled: Bryan ‘s effect and resonator gyroscopes and Oscillators, dissipation and energy.
* Dr PH Kloppers and Me SA Mouton gave a talk entitled: The inclusion of quantitative variables as predictors in multiple regression model, at the NMMU annual Postgraduate seminar in Port Elizabeth that was held from 26-28 September 2013:
* Me SA Mouton and Dr PH Kloppers gave a talk entitled: Analysis of the success rate od first year statistics students using Six Sigma, at the NMMU annual Postgraduate seminar in Port Elizabeth that was held from 26-28 September 2013.
* Me M Aphane gave a talk at the NMMU annual Postgraduate seminar in Port Elizabeth that was held from 26-28 September 2013.
* Mr CN Msipha delivered a paper entitled: Nearly real compact frames, at the TAAG conference in Botswana on 11-13 September 2013
* Mr CN Msipha delivered a paper entitled: : On variants of pointfree isocompactness, at the SAMS Congress 30th October -1st November 2013
* Mr Khunoana delivered a paper entitled: Stochastic analysis of a two unit warm standby system with preparation time for repair, at the SASA conference at Limpopo, 04 – 08 November 2013.
* Ms M Aphane attended a student symposium at Unisa on 20 September 2013. She also attended a workshop at the African Institute of Mathematical Society, 1- 7 December

**Department of Nature Conservation**

*National*

1. **Deysel, R.; Myburgh, W.J. & Panagos, md.** 2013. Preliminary findings for the study of the habitat characteristics of the heidelberg copper butterfly (C*hrysorites aureus*) in Gauteng and Mpumalanga, South Africa.

**Department of Pharmaceutical Sciences**

*Participation at international conferences, symposia, etc*

Staff participated as follows:

Dr C Tarirai presented a poster in Athens Greece; Mokhele, M.S.L., **Enslin, G.M.,** **Tarirai, C**. *Sclerocarya birrea* and *Psidium guajava extracts as pharmaceutically inactive functional excipients in granule and minitablets.* 23-26 September 2013. 5th BBBB International conference. National and Kapodistrian University of Athens, Athens, Greece. (Poster)

**Ms N Mncwangi** presented a poster at the 12th Annual Oxford International Conference on the Science of Botanicals which was held in Oxford, Mississippi, from 15-18 April 2013. The poster was entitled ‘Variation of the biologically active constituent, harpagoside, in *Harpagophytum procumbens* and *H. zeyheri.*

**Kamatou, G.P.P., Viljoen, A.M.** Chemistry and biological activities of selected *Salvia* species indigenous to South Africa. 4th Brazilian Conference on Natural Products and 30th RESEM, 28–31 October 2013.

**Viljoen, A.M**. Challenges and opportunities in developing modern phytomedicines based on ancient knowledge – examples from the South African flora . International Conference on Natural Products Utilization, 3-6 November 2013, Bansko, Bulgaria [plenary lecture]

**Maree JE,** **Viljoen AM, Kamatou GPP, Ahmad A**, Van Vuuren SF. The application of chemometric modelling in optimising antimicrobial essential oil formulations. 44th International Symposium on Essential Oils, 8-12 September 2013, Budapest, Hungary. [podium]

**Viljoen, A.M., Vermaak, I., Chen, W.** Quality control of phytomedicines – is the herbal medicine industry facing a crisis? 61st International Congress and Annual Meeting of the Society of Medicinal Plants and Natural Product Research (GA), 1-5 September 2013, Münster, Germany. [podium]

**Viljoen, A.M.** Transforming ancient knowledge into phytomedicines – a South African perspective. American Society of Pharmacognosy 2013 annual meeting, 13-17 July 2013, St Louis, USA [invited lecture podium]

**Viljoen, A.M. and Vermaak, I**. Standardisation and quality control of herbal medicinal products – Does vibrational spectroscopy offer the solution? 12th Annual Oxford International Conference on the Science of Botanicals, 15-18 April 2013, Oxford, USA [plenary lecture]

Hyperspectral imaging as a visual quality control method for herbal medicines **I Vermaak, AM Viljoen** 16th International Conference on Near Infrared Spectroscopy (ICNIRS) 2013, 2 – 7 June, la Grande-Motte, France, (Podium)

**I Vermaak, AM Viljoen,** D De Beer, L Joubert Hyperspectral imaging as a visual quality assessment method for South African herbal teas, 12th Annual Oxford International Conference on the Science of Botanicals 2013, 15 – 18 April, Oxford, USA (Poster)

Variation of the biologically active constituent harpagoside in Harpagophytum procumbens and H. zeyheri **N Mncwangi, AM Viljoen, I Vermaak, W Chen** 12th Annual Oxford International Conference on the Science of Botanicals 2013, 15 – 18 April, Oxford, USA Poster

**Mokhele, M., Enslin, G.M. and Tarirai, C**.  2013.  *Sclerocarrya birrea and Psidium guajava fruit extracts as pharmaceutically active – inactive oral drug permeability enhancers pa P-glycoprotein efflux inhibition*.  The 5th BBBB International Conference, 26-28 Septmeber 2013

*Participation at national conferences, symposia, etc.*

Ms N Mncwangi attended the PSSA conference (3’s Company Conference) which was held in Cape Town, from 4-6 October 2013. A poster entitled ‘Metabolite profiling and chemometric analysis of Devil’s Claw (*Harpagophytum* secies)’ was presented.

Prof DR Katerere. The economics of drug discovery in Africa. Africa Health Conference, Midrand, 7 – 9 May 2013 (invited speaker).

Mugomeri, E., Chatanga, P., Makara ‘M., Mahlape, M., Seutloali, G., Hlapisi, S., Rahlao, L., Sekheo, ‘M, Maputsoe. ‘M., **Tarirai, C.**Setting up a Lesotho herbal medicines repository and database. 04-06 October 2013. ‘3’s Company APSSA Conference. Milnerton, Cape Town: University of the Western Cape (UWC). (Poster)

Vermaak, I., Viljoen, A.M., De Beer, D., Joubert, L. Quality control through hyperspectral imaging – making the invisible visible. 16th Annual Indigenous Plant Use Forum (IPUF) Nelspruit, South Africa. 1 – 4 July 2013.

Bassey, K.N., Combrinck, S., Viljoen, AM. Ethnomedicinally important *Hypoxis* species: are they chemically distinct. 16th Annual Indigenous Plant Use Forum (IPUF) Nelspruit, South Africa. 1 – 4 July 2013.

Mavimbela, T., Vermaak, I., Viljoen, A.M., Kumar, D. *Agathosma betulina* and *Agathosma crenulata* – a quality control perspective. 16th Annual Indigenous Plant Use Forum (IPUF) Nelspruit, South Africa. 1 – 4 July 2013.

Kanama, S., Viljoen, A.M., Chen, W., Kamatou, G.P.P., Idowu, T.O. Quality control assessment of Uzara: an important indigenous medicinal plant. 16th Annual Indigenous Plant Use Forum (IPUF) Nelspruit, South Africa. 1 – 4 July 2013.

Tankeu, S.Y., Vermaak, I., Kamatou, G.P.P., Viljoen, A.M. Essential oil variation of *Tagetes minuta* in South Africa. 16th Annual Indigenous Plant Use Forum (IPUF) Nelspruit, South Africa. 1 – 4 July 2013.

Viljoen, A.M., Vermaak, I., Kumar, D., Chen, W., Sandasi, M. Challenges in quality control of herbal medicines-is there reason for concern? 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Kumar, D., Viljoen, A.M., Vermaak, I., Chen, W. Reproducible HPTLC and UPLC-MS/MS methods for quality control of Ginseng products. 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Mncwangi, N., Vermaak, I., Viljoen, A.M., Chen, W., Zhang, J., Khan, I. Metabolite profiling and chemometric analysis of Devil’s Claw (*Harpagophytum* species). 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Ahmad, A., van Vuuren, S., Viljoen, A.M. Combinational/synergistic interactions of *Thymus Vulgaris* volatiles against various microbial pathogens. 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Vermaak, I., Tankeu, S., Kamatou, G.P.P., Viljoen, A.M. A rapid quality control method for tea tree oil using the powerful combination of vibrational spectroscopy and chemometric data analysis. 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Kasote, D.M., Kamatou, G.P.P., van Vuuren, S., Viljoen, A.M. Chemical profiling of South African propolis. 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Acharya, D., Mavimbela, T., Enslin, G., Chen, W., Viljoen, A.M. The need to standardise herbal medicines – the case of *Sutherlandia* (Cancer bush). 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Sandasi, M., Kamatou, G.P.P., Viljoen, A.M. Vibrational spectroscopy and chemometrics: a rapid, low cost alternative in the quality assessment of medicinal plants. 3’s Company Pharmacy Conference 2013. (APSSA, ICPA, SAAPI), Cape Town, South Africa. 4 – 6 October 2013.

Enslin, G.M., Snyman J., Reeber, E.M., Abisola, A.A., Mahlangu, S.I., Masingi, M.C., Mogane, N.F., Sombili, S.B.  2013  Does the BPharm curriculum of TUT/UL(Medunsa campus) prepare graduates to be competent community pharmacists? Conference of the South African Association of Health Educationalists, Durban, South Africa, 27-29 June 2013.

MD Kasumba1, EI Olivier1\*, T Regnier2. *In-vitro* efficacy of mucolytics and antimicrobial combinations against biofilm-formers implicated in otitis media and cystic fibrosis, TUT Faculty Research Day, 14 August 2013

Alihanga D.A., Olivier E.I., Demana P.H. TU, Compatibility between plant extracts and gum base using differential scanning calorimetry, Faculty Research Day, 14 August 2013

Comparative dissolution of nicorette chewing gum using two different apparatus,

Mulamba G, Olivier EI, Demana PH. TUT Faculty Research Day, 14 August 2013

Sandasi, M., Kamatou, G.P.P., Viljoen, A.M. Vibrational spectroscopy and chemometrics: a rapid, low cost alternative in the quality assessment of indigenous aromatic plants.16th Annual Indigenous Plant Use Forum (IPUF) Nelspruit, South Africa. 1 – 4 July 2013.

**Department of Physics**

*Participation at international conferences, symposia, etc***.**

* Dr. JKO Asante gave a poster presentation at the 12th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures *in conjunction with* 21st International Colloquium on Scanning Probe Microscopy in Tsukuba, Japan 4-8 November 2013).

*Participation at national conferences, symposia, etc.*

1. Dr. JKO Asante gave a poster presentation at the 58th South African Institute of Physics (SAIP) conference held at Zululand University (8-12 July 2013).
2. Mr R Sule, a doctorate student of Dr Asante gave a poster presentation at Microscopic Society of Southern Africa (MSSA) 2013 conference, title: ‘***Characterization of CNT Enhanced Copper Composites***’ *(R Sule, P Olubambi, JKO Asante and I Sigalas)*.

**4.5 Funding for research**

**Adelaide Tambo School of Nursing Science**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2012 2013** | |
| NRF | Master’s student |  | R30000 |
| TUT | Niche area | R177000 | R155000 |

**Department of Animal Science**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2012 2013** | |
| FRIC | Conformation and kinematic analysis | R41560 | 0 |
| Boerperd Breeders Society | Motion Analysis Software | R32000 | 0 |
| DAFF | Reproductive Technologies | R100 000 | 0 |
| NRF | China bilateral project | R218136 | R166940 |
| SANPAD | RCI-program | n/a | n/a |
| NRF | International Travel/ Luseba | R15000 | 0 |
| FRIC | D-Tech: Mr WHJ van Rensburg | R45000 | 0 |
| NRF Thutuka | PhD: Mr CJL du Toit | R151820 | R127 760 |

**Department of Biotechnology & Food Technology**

| **Source** | **Research activity** | **Amount** | | |
| --- | --- | --- | --- | --- |
| **2011** | **2012** | **2013** |
| Maize Trust | Fumonisin research activities | 150 000.00 | 120 000.00 | 210 000.00 |
| NRF – THRIP |  |  | 85 000.00 | 200 000.00 |
| Medical Research Council (MRC) | Doctoral studies |  | 28 500.00 | 0 |
| CSIR  Nanotechnology | Microbiological analyses  Prof MP Roux vd Merwe  Dr J Badenhorst |  | 20 000.00 | 20 000.00 |
| CRIC | Prof PJ Jooste | 43 000.00 | 150 000.00 | 100 000.00 |
| FRIC | D Tech project | 30 000.00 | 63 000.00 |  |
| R&I Directorate | Commercialization of sour maize beverage |  |  | 75 000.00 |
| Publications (2011 received in 2013) | Prof PJ Jooste  Mrs B du Plessis |  | 59 500.00  8750.00 | 39 000.00 |
| **TOTAL** |  | **223 000.00** | **534 750.00** | **644 000.00** |

**Department of Biomedical Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2012 2013** | |
| NRF Thutuka | Medicinal plants and diabetes mellitus | 335,800.00 | 156,000.00 |
| THRIP | Technology and Human Resources for Industry Programme |  | 421,680.00 |

**Department of Chemistry**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Source** | **Running costs** | **Student Bursaries** | **Bi-lateral Funding** | **Instrumentation** |
| CATSA | R2 671.23 |  |  |  |
| DAAD-NRF |  | R90 000 |  |  |
| NRF | R80 000 |  |  |  |
| NRF (Rated scientists) | R28 802.89 | R6 500 |  | R6 266.97 |
| NRF (SA-Germany) |  |  | R124 300 |  |
| NRF (Thuthuka) | R 68 000 | R 125 000 |  | R 50 000 |
| TUT |  | R100 000 |  |  |
| TUT/CRIC (Niche Areas) | R70 000 |  |  |  |
| TUT/CRIC (PDF) |  |  |  |  |
| TUT/DRIC (M & D support) | R24 000 |  |  |  |
| TUT/FRIC | R15 000 |  |  |  |
|  |  |  |  |  |
| **Total** | **R288 474.12** | **R321 500** | **R124 300** | **R56 266.97** |

**Department of Crop Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount (R)**  **2012 2013** | |
| NRF Knowledge Development Fund | Precision Agriculture. | ±84 000 | 128 000 (not used) |
| NRF SA/ARGENTINA | Remote Sensing for Agriculture. | ±110 000 | ±110 000 |
| Howard G Buffet Foundation | Identify critical limitations in horticulture crop production, marketing and consumption in South Africa and neighboring regions. | 150 000 | 200 000 |
| Belgian Development Agency | Train six M Tech students on various research fields. | 300 000 | 300 000 |
| NRF Incentive funding | Vegetable production under protection | 40 000 | 40 000 |
| NRF Incentive funding | Post-harvest technology of fresh produce | 40 000 | 40 000 |
| TUT starter funds | Vegetable production under protection | 350 000 |  |
| WRC | Research on small-scale irrigation | 148 000 |  |
| WAU | Research on small-scale irrigation | 27 000 |  |

**Department of Environmental Health**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Research activity** | **Amount**  **2012 2013** | |
| NRF | PhD studies for Ms J Shirinde | R89, 328.00 | R32, 000.00 |
| DHET | PhD studies for Mr F Mnisi | - | R60, 000.00 |
| SAPA | D Tech studies for Mr JL Harmse | R150,000.00 | - |
| MRC | D Tech studies for Ms S Mudau | R30, 000.00 | - |
| SNOWS | D Tech studies for Ms S Mudau | - | R75, 000.00 |

**Department of Environmental, Water & Earth Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Staff member** | **Source** [NRF, etc] | **Research activity** | **Amount** |
| Prof Maree | THRIP | Brine water treatment | R8 000 000 |
| Dr Fourie | THRIP | Solid waste water treatment | R8 000 000 |
| Dr Fourie | NRF/NEP | Seismology network | R10 000 000 |
| Dr Fourie | AEON | Matjiesfontein Grant | R500 000 |
| Prof Jansen | Rufford Foundation (UK) | African pangolin bush meat | R40 000 |
| Prof JO Okonkwo | Rand Water | Persistent organic pollutants | R1 000 000 |
| Prof Momba | TUT | Water research | R600 000 |
| Prof Momba | NRF | Water research | R797 429 |
| Prof Momba | UJ | Water research | R90 000 |
| Prof Momba | CSIR/WRC | Water research | R264 480 |

**Department of Mathematics & Statistics**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2012 2013** | |
| Shatalov: NRF Incentive Foundation for Rated Researchers | Research in the field of growing bodies (2011-2012).  Research in theory of vibratory gyroscopes (2011-2012).  Research visit to Moscow, Russia (2012).  Partial funding of visit of Dr M. Tenkam to the World Congress on Engineering (London, 2012) | 40 000 | 40 000 |
| Joubert: NRF | Incentive funding for rated researcher (Mathematical Technology) | R40 000 | R40 000 |
| Fedotov: NRF | Incentive funding for rated researcher (Mathematical Technology) | R40 000 | R40 000 |

**Department of Nature Conservation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount**  **2012 2013** | |
| NRF | Incentive for rated researchers | R40 000 | R120 000 |
| Ree Park Zoo | Grant | R33 000 |  |
| Other | Grants |  | R85 000 |
|  |  |  |  |

**Department of Pharmaceutical Sciences**

|  |  |
| --- | --- |
| NRF KIC (Ms N. Mncwangi) | R21,000 |
| NRF KIC (Prof DR Katerere) | R30,000 |
| TUT Emerging Researcher Grant 2011-2013 (Dr C Tarirai) - annually | R100,000 |
| NRF KIC (Dr C. Tarirai) | R18,788 |
| NRF Thuthuka (Dr I Vermaak) | R 145,000 |
| National equipment program (LECO Pegasus 4D) (AV) | R4 200 000 |
| MRC - self initiated research grant (Prof A Viljoen) | R154 000 |
| NRF - competitive grant for rated researchers (Prof A Viljoen) | R360 000 |
| SARChi (Prof A Viljoen) | R980 000 |
| NRF (Baatile Komane-Mofokeng) | R364 000 |
| NRF G (Enslin) | R240 000 |

**Department of Physics**

|  |  |  |
| --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount (R)**  **2012 2013** |
| NRF | Travel Grant | 32 000 |

**Department of Sport, Rehabilitation & Dental Sciences**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** [NRF, etc] | **Research activity** | **Amount (R)**  **2012 2013** | |
| NRF | Research related visits, equipment purchase and support of post-graduate students supervised. | 100,000 | 100,000 |

**5. TEACHING INPUT UNITS (TIUS) AND TEACHING OUTPUT UNITS (TOUS)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **5: Teaching Input Units and Teaching Output Units** | | | | | |
| **Indicator** | **2009** | **2010** | **2011** | **2012** | **2013** |
| Teaching Input Units | 18,729.67 | 19,331.56 | 19,219.05 | 19,371.46 | 20,242.20 |
| Teaching Output Units | 1,670.00 | 1,658.50 | 2,016.50 | 1,913.50 | 1,839.25 |

**6. STAFF PROFILE, QUALIFICATIONS AND RATIOS  
6.1 General Overview**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **6.1: Staff Headcount by Race and Gender** | | | | | | | | | | | |
| **Year** | **African** | | **Coloured** | | **Indian** | | **White** | | **Total F** | **Total M** | **Total** |
| **F** | **M** | **F** | **M** | **F** | **M** | **F** | **M** |
| **Permanent** |  |  |  |  |  |  |  |  |  |  |  |
| 2009 | 48 | 52 | 1 | 2 | 6 | 2 | 80 | 71 | 135 | 127 | 262 |
| 2010 | 55 | 58 | 1 | 2 | 8 | 1 | 82 | 67 | 146 | 128 | 274 |
| 2011 | 62 | 58 | 1 | 2 | 7 | 1 | 85 | 62 | 155 | 123 | 278 |
| 2012 | 68 | 69 | 2 | 1 | 7 | 3 | 85 | 58 | 162 | 131 | 293 |
| 2013 | 68 | 76 | 2 | 2 | 7 | 3 | 84 | 54 | 161 | 135 | 296 |
| **Temporary** |  |  |  |  |  |  |  |  |  |  |  |
| 2009 | 90 | 127 | 2 |  | 2 | 2 | 92 | 116 | 186 | 245 | 431 |
| 2010 | 101 | 130 | 2 |  | 2 | 1 | 93 | 91 | 198 | 222 | 420 |
| 2011 | 145 | 174 | 1 |  | 2 | 3 | 78 | 82 | 226 | 259 | 485 |
| 2012 | 152 | 186 | 1 |  | 2 |  | 74 | 72 | 229 | 258 | 487 |
| 2013 | 144 | 161 | 1 |  | 2 |  | 68 | 66 | 215 | 227 | 442 |

The Faculty currently employs 738 Permanent and Temporary staff with 466 (63.13%) belonging to the Designated

Groups and an almost fifty percent gender split (376 female Vs. 362 male).

* 1. **Number of Staff per Race, Gender and Disability (D/A)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **6.2: Number of Staff per Person Category** | | | | | | | | | | |
| **Person Category** | **2009** | | **2010** | | **2011** | | **2012** | | **2013** | |
| **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** | **Perm** | **Temp** |
| Executive/admin./mgmt. professional | 2 |  | 2 |  | 2 | 1 | 2 |  | 2 |  |
| Instructional/research professional | 195 | 176 | 199 | 173 | 196 | 210 | 204 | 203 | 205 | 166 |
| Non-professional administration | 43 | 199 | 47 | 204 | 58 | 242 | 60 | 243 | 63 | 229 |
| Service | 10 | 2 | 10 | 1 | 9 | 1 | 9 | 1 | 9 | 1 |
| Specialised/support professional | 10 | 52 | 14 | 40 | 12 | 30 | 16 | 39 | 15 | 45 |
| Technical | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 2 | 1 |
| **Total** | **262** | **431** | **274** | **420** | **278** | **485** | **293** | **487** | **296** | **442** |

* 1. **Number of Staff per Person Category**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  | | --- | | **6.3: Instructional/Research Staff per Qualification Type** | | | | | | | | | | | | | | | | |
| **Qualification Type** | **2009** | | | **2010** | | | **2011** | | | **2012** | | | **2013** | | |
| **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** |
| Diplomas and Certificates | 6 | 12 | 18 | 6 | 8 | 14 | 7 | 7 | 14 | 6 | 7 | 13 | 5 | 4 | 9 |
| Degrees | 43 | 48 | 91 | 42 | 46 | 88 | 41 | 57 | 98 | 37 | 51 | 88 | 36 | 30 | 66 |
| **Undergraduate Total** | **49** | **60** | **109** | **48** | **54** | **102** | **48** | **64** | **112** | **43** | **58** | **101** | **41** | **34** | **75** |
| Postgraduate to Masters | 5 | 53 | 58 | 6 | 63 | 69 | 7 | 71 | 78 | 16 | 75 | 91 | 14 | 83 | 97 |
| Honours | 10 | 21 | 31 | 9 | 19 | 28 | 8 | 20 | 28 | 13 | 18 | 31 | 10 | 11 | 21 |
| Masters | 74 | 25 | 99 | 74 | 22 | 96 | 73 | 31 | 104 | 72 | 29 | 101 | 75 | 22 | 97 |
| Doctoral | 57 | 17 | 74 | 62 | 15 | 77 | 60 | 24 | 84 | 60 | 23 | 83 | 65 | 16 | 81 |
| **Postgraduate Total** | **146** | **116** | **262** | **151** | **119** | **270** | **148** | **146** | **294** | **161** | **145** | **306** | **164** | **132** | **296** |
| **Total** | **195** | **176** | **371** | **199** | **173** | **372** | **196** | **210** | **406** | **204** | **203** | **407** | **205** | **166** | **371** |

Sadly, the hemis data obtained still does not include all the correct qualifications of staff members. At the end of 2013, we for the first time achieve our target of having 40% of staff with Doctoral degrees. The next phase will be to achieve 50% and with the number of staff enrolled for Doctoral degrees, this should be achieved in the nex three years.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FACULTY OF SCIENCE** | | | | | | | | | | | | | | | | | | | |
| **ACADEMIC STAFF NOT MEETING QUALIFICATION REQUIREMENTS FOR POST LEVEL** | | | | | | | | | | | | | | | | | | | |
| **10 February 2013** | | | | | | | | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **NAME** | **POST** | **STAFF** | **DEPARTMENT** | **Equity** | | | | **Current Qualification** | | | | **REQUIRED** | | | **Current** | **Registered** | | **To** | **Expected date** |
|  | **LEVEL** | **No.** |  | **M** | **F** | **B** | **W** | **3 Yr** | **4 Yr** | **M** | **D** | **B** | **M** | **D** | **Status** | **No** | **Yes** | **Retire** | **of completion** |
| Janse van Rensburg WH | 6 | 303984 | Animal Sciences | 1 |  |  | 1 |  |  | 1 |  |  |  | 1 | D Tech at TUT |  | 1 |  | 2015 |
| Gibson RG | 7 | 555630 | Animal Sciences | 1 |  |  | 1 |  |  | 1 |  |  |  | 1 | Not registered | 1 |  |  |  |
| Mansfield DF | 8 | 558370 | Animal Sciences |  | 1 |  | 1 |  | 1 |  |  |  | 1 |  | M Tech at TUT |  | 1 |  | 2014 |
| Mashiya JG | 8 | 523267 | Animal Sciences | 1 |  | 1 |  |  | 1 |  |  |  | 1 |  | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Swart, JM (Ms) | 8 | 588636 | Biomedical Sciences |  | 1 |  | 1 |  | 1 |  |  |  | 1 |  | M Tech at TUT |  | 1 |  | 2015 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Khanye MK | 7 | 801198 | Chemistry | 1 |  | 1 |  |  |  | 1 |  |  |  | 1 | Not registered | 1 |  |  |  |
| Koape LDR | 7 | 814117 | Chemistry | 1 |  | 1 |  |  |  | 1 |  |  |  | 1 | PhD at UNISA |  | 1 |  | 2014 |
| Matlaila KM (Ms) | 9 | 700267 | Chemistry |  | 1 | 1 |  | 1 |  |  |  | 1 |  |  | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Harmse, JL (Mr) | 6 | 301892 | Environmental Health | 1 |  |  | 1 |  |  | 1 |  |  |  | 1 | D Tech at TUT |  | 1 |  | 2014 |
| Morodi, TJ (Mr) | 7 | 820818 | Environmental Health | 1 |  | 1 |  |  |  | 1 |  |  |  | 1 | PhD at US |  | 1 |  | 2014 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Kotzé PA | 7 | 535168 | Environmental Water & Earth Sci. | 1 |  |  | 1 |  | 1 |  |  |  |  | 1 | Working on proposal for M Tech | 1 |  |  | ?? |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Whitcomb L | 8 | 203378 | Horticulture | 1 |  |  | 1 |  | 1 |  |  |  | 1 |  | Not registered | 1 |  |  | ?? |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Jordaan JP | 7 | 203629 | Mathematics & Statistics | 1 |  |  | 1 |  | 1 |  |  |  |  | 1 | M Tech at TUT |  | 1 |  | 2015 |
| Joseph, J (Ms) | 7 | 700185 | Mathematics & Statistics |  | 1 | 1 |  |  |  | 1 |  |  |  | 1 | Not registered | 1 |  |  |  |
| Ncube CN | 7 | 536091 | Mathematics & Statistics | 1 |  | 1 |  |  |  | 1 |  |  |  | 1 | PhD at UNISA |  | 1 |  | Dec 2014 |
| Pete, NA | 7 | 700587 | Mathematics & Statistics | 1 |  | 1 |  |  |  | 1 |  |  |  | 1 | D Tech at TUT | 1 |  |  | 2016 |
| Steyn SD (Ms) | 7 | 518565 | Mathematics & Statistics |  | 1 |  | 1 |  |  | 1 |  |  |  | 1 | Not registered | 1 |  |  |  |
| Khunoano M | 8 | 822802 | Mathematics & Statistics | 1 |  | 1 |  |  | 1 |  |  |  | 1 |  | Registered for MSc at UNISA |  | 1 |  | 2014 |
| Mouton SA (Ms) | 8 | 534226 | Mathematics & Statistics |  | 1 |  | 1 |  | 1 |  |  |  | 1 |  | Not registered | 1 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Botha AJvdS **HoD** | 6 | 100579 | Nature Conservation | 1 |  |  | 1 |  |  | 1 |  |  |  | 1 | D Tech at TUT |  | 1 |  | 2015 |
| Krynauw DJ | 7 | 300969 | Nature Conservation | 1 |  |  | 1 |  |  | 1 |  |  |  | 1 | D Tech at TUT |  | 1 |  | 2015 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Leonard, CM (Ms) | 7 | 573906 | Pharmaceutical Sciences |  | 1 | 1 |  |  |  | 1 |  |  |  | 1 | DTech Pharm Sc TUT |  | 1 |  | 2014 |
| Nazer, DP (Mr) | 7 | 591815 | Pharmaceutical Sciences | 1 |  | 1 |  |  |  | 1 |  |  |  | 1 | Not yet registered | 1 |  |  |  |
| **Louw, CA (Ms)** | 8 | 504793 | Pharmaceutical Sciences |  | 1 |  | 1 |  | 1 |  |  |  | 1 |  | MTech Somatology TUT |  | 1 |  | 2014 |
| Baron, DJ (Ms) | 7 | 100196 | Pharmaceutical Sciences |  | 1 |  | 1 |  |  | 1 |  |  |  | 1 | D tech |  | 1 |  | 2016 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Boshoff, AR (Mr) | 7 | 100463 | Sport, Rehab & Dental Sciences | 1 |  |  | 1 |  | 1 |  |  |  |  | 1 | Retires end of 2014 |  |  | 1 |  |
| Prinsloo, EM (Ms) | 7 | 200689 | Sport, Rehab & Dental Sciences |  | 1 |  | 1 | 1 |  |  |  |  |  | 1 | No progression possible | 1 |  |  |  |
| Smit, WA (Mr) | 7 | 301345 | Sport, Rehab & Dental Sciences | 1 |  |  | 1 |  |  | 1 |  |  |  | 1 | Not registered | 1 |  |  |  |
| De Wet, KB (Mr) | 8 | 543365 | Sport, Rehab & Dental Sciences | 1 |  |  | 1 |  | 1 |  |  |  | 1 |  | Agreed to do MSc at UJ | 1 |  |  |  |
| Phoffu, GM (Ms) | 8 | 816667 | Sport, Rehab & Dental Sciences |  | 1 | 1 |  |  | 1 |  |  |  | 1 |  | Not registered | 1 |  |  |  |
| Pieterse, S (Ms) | 8 | 200549 | Sport, Rehab & Dental Sciences |  | 1 |  | 1 | 1 |  |  |  |  | 1 |  | Not registered | 1 |  |  |  |
| Schwartz, S (Ms) | 8 | 301337 | Sport, Rehab & Dental Sciences |  | 1 |  | 1 |  | 1 |  |  |  | 1 |  | Not registered | 1 |  |  |  |
| Snyman, CM (Mr) | 8 | 533203 | Sport, Rehab & Dental Sciences | 1 |  |  | 1 |  | 1 |  |  |  | 1 |  | MPH at UNISA |  | 1 |  | 2014 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | **TOTAL** | 20 | 13 | 12 | 21 | 3 | 14 | 16 | 0 | 1 | 12 | 20 |  | 17 | 15 | 1 |  |
|  |  |  | **%** | 60.6% | 39.4% | 36.4% | 63.6% | 9.1% | 42.4% | 48.5% | 0.0% | 3.0% | 36.4% | 60.6% |  | 51.5% | 45.5% | 3.0% |  |
|  | | | **TOTAL** | **33** | | | | **33** | | | | **33** | | |  | **33** | | |  |

* 1. **Instructional/Research Staff Ratio’s**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2009** | | | **2010** | | | **2011** | | | **2012** | | | **2013** | | |
| **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** | **Perm** | **Temp** | **Total** |
| I/R Staff / Student FTE Ratio | 1:28.3 | 1:84.9 | **1:21.2** | 1:26.6 | 1:81.4 | **1:20.0** | 1:27.5 | 1:70.4 | **1:19.7** | 1:27.1 | 1:70.3 | **1:19.6** | 1:27.5 | 1:79.6 | **1:20.4** |
| Support Staff FTE / I/R Staff Ratio | 1:2.9 | 1:0.8 | **1:1.7** | 1:2.8 | 1:0.8 | **1:1.7** | 1:2.4 | 1:0.9 | **1:1.6** | 1:2.2 | 1:1.0 | **1:1.6** | 1:2.2 | 1:0.8 | **1:1.5** |

**7. PQM ALIGNMENT TO HEQSF**

**7.1 Extent to which PQM has been aligned to the HEQSF**

|  |  |  |  |
| --- | --- | --- | --- |
| **DEPARTMENT** | **Number of Programmes** | **Number of revised/ new programmes** | **%** |
|  |  |  |  |
| Physics | 1 | 1 (Dip: Industrial Physics) |  |
| Environmental Health | 1 | 1 (B Tech Environmental Health) |  |
| **Total faculty** | **2** |  |  |

**7.2 Number of current programmes being phased out per department**

|  |  |  |  |
| --- | --- | --- | --- |
| **DEPARTMENT** | **Number of Programmes** | **Number of programmes phased out** | **%** |
| NCOY97 | National Certificate: Occupational Therapy Assistants | 2012 -2013 |  |
|  |  |  |  |
|  |  |  |  |

**7.3 New programmes offered for the first time in 2013**

|  |  |  |
| --- | --- | --- |
| **Programme code** | **Name of programme** | **Date of introduction** |
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| NDBTF1 | N Dip Biotechnology (extended) | N/A |
| NDFTF1 | N Dip Food Technology (extended) | N/A |
| NDVEF0 | N Dip: Veterinary Technology (Extended curriculum programme with foundation provision) | January 2013 |
| D3IP13 | Dip: Industrial Physics | 7 January 2013 |

**7.4 Programmes under revision**

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| **Programme code (if available)** | **Name of programme** | **Envisaged implementation date** |
| All the programmes in the Faculty are being renewed in order to align them with the HEQSF. It would not be logical to single out any specific programmes. |  |  |
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