# TRINITY COLLEGE DUBLIN
ANNUAL REPORT 2005 - 2006

## Members of the Board of Trinity College Dublin during the 2005/06 academic year were:

**Ex-Officio Members**
Provost, Dr John Hegarty (Chair)
Vice-Provost, Professor Ruth Byrne
Senior Lecturer, Professor Colm Kearney
Registrar, Professor David Dickson
Bursar, Professor Clive Williams

**Elected Fellows and Fellow Professors**

| | |
|---|---|
| Professor Nigel Biggar | (2005-2010) |
| Professor Werner Blau | (2005-2008) |
| Professor John Kelly | (2005-2008) |
| Professor Marina Lynch | (2005-2010) |
| Dr Eoin O'Dell* | (2005-2010) |
| Professor Eunan O'Halpin | (2005-2008) |
| Professor John Parnell | (2005-2008) |
| Dr Amanda Piesse | (2005-2010) |

**Elected Non-Fellow Academic Staff**

| | |
|---|---|
| Dr Andrew Butterfield | (2005-2008) |
| Ms Mary Coffey | (2005-2008) |
| Dr Alison Donnelly | (2005-2010) |
| Dr Eoin Mac Cárthaigh | (2005-2010) |
| Dr Donal O'Donovan | (2005-2008) |

**Elected Non-Academic Staff**

| | |
|---|---|
| Mr Henry Kearns | (2005-2010) |
| Ms Mary Leahy | (2005-2008) |
| Dr Kieran J McGinley | (2005-2008) |

**Student Representatives**

| | |
|---|---|
| President Graduate Students' Union, Mr Ryan Sheridan | (2004-2006) |
| President Students' Union, Mr John Mannion | (2005-2006) |
| Education Officer Students' Union, Mr Donal McCormack | (2005-2006) |
| Welfare Officer Students' Union, Ms Stephanie O'Brien | (2005-2006) |

**External members**

| | |
|---|---|
| Mr Brian Sweeney, nominated by Trinity College Dublin | (2005-2008) |
| Ms Geraldine Clarke, nominated by the Minister for Education and Science | (2005-2008) |

**In Attendance Ex-Officio**
Secretary, Mr Michael Gleeson
Treasurer, Ms Grace Dempsey
Assistant Secretary, Ms Anne FitzGerald

* Resigned during 2005-2006 and was replaced by Professor Jagdish Vij in May 2006.



Black and White Photography - Jason Leslie Rogers

TRINITY COLLEGE DUBLIN
ANNUAL REPORT 2005 - 2006

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## Foreword

This Annual Report sets out a summary of Trinity College Dublin's developments and achievements during the academic year 2005/06.

Recognised internationally as Ireland's premier university, we aim to build on this respected reputation to be among the top 50 universities in the world.

Our strategic priorities, as outlined in *The Strategic Plan Update* 2006, build on strengths in research and education at the third and fourth levels and are aligned to the national goals of social and economic vibrancy. The updated Strategic Plan reflects significant changes within the College arising from the ongoing restructuring of academic, administrative and support areas, as well as significant changes in the external landscape.

Along with other Irish universities, the College is facing funding difficulties. The overall level of public funding for higher education in this country is low relative to international norms, and it is a challenge to provide high-quality research, teaching and infrastructural supports to staff and students. The funding context for Trinity is provided by the Government's core recurrent grant, which has decreased significantly in real terms over the past decade. This issue is outlined in Section 10 of this Annual Report and is a serious matter which must be addressed.

However, these funding difficulties and future challenges must not overshadow the many positive aspects of the present. Trinity has an excellent reputation nationally and internationally. The quality and performance of our students and the outstanding achievements of so many staff from across the College are good indicators of ongoing academic vitality and strength. The College is the first choice of the majority of high achieving students from the second level sector.

I would like to thank all members of staff - academic, administrative and support - for their dedication throughout the year; they have played a vital role in the College's successes. I would also like to express my gratitude to the Taoiseach, the Minister for Education and Science, government departments, the Higher Education Authority, Science Foundation Ireland, the Health Research Board, IRCHSS, and the many other research agencies who have supported Trinity. In addition, I would like to express my appreciation to the Board and Executive of the Trinity Foundation.

John Hegarty,
Provost.

## 1. Introduction

The 2005/06 academic year brought many important developments for the College:

- *The Strategic Plan Update 2006,* a mid-term revision of the *Strategic Plan 2003-2008,* was published.

- A new academic structure was put in place and further developed while administrative reform was progressed.

- The College was the only university in the State to feature in the top 120 universities worldwide and the top 50 European universities in the Times Higher Education Supplement's world university rankings.

- Trinity staff members continued to excel in research achievements and received national and international distinction.

- Income to support all research activities reached a level of €58 million.

- The College continued to attract the top achievers in the Leaving Certificate and equivalent examinations.

- Twelve professorial appointments were made, three of which were to newly-created Chairs.

- 4,036 students had their degrees conferred upon them.

## 2. Strategic Plan Update

The Strategic Plan Update, a mid-term revision of the *Strategic Plan 2003-2008,* was published in 2006. Many of the actions set out in that plan have been accomplished and the updated version renews the College's strategies for research, graduate education, undergraduate education and contribution to society. It also refines strategies for human resources, infrastructural resources, and governance and stewardship of resources.

The headline actions identified in the Strategic Plan Update include:

The recruitment of world-class leaders in research and education - approximately 225 high-calibre academic staff will be recruited over the next five years to support the increase in postgraduates by 1,000.

Graduate education provision will be enhanced by increasing postgraduate numbers while maintaining the high quality of degree courses, and it will be advanced through the development of integrated PhD programmes within three graduate clusters.

Undergraduate education provision will be revitalised by broadening the curriculum, building on high-quality initiatives in academic practice and student learning support systems, and supporting existing initiatives to improve access, inclusiveness and diversity.

The recent academic restructuring will be consolidated through the reshaping of the administrative and support areas and through the implementation of an eStrategy and associated information systems initiatives.

Infrastructural Expansion will continue with investment in key student and research facilities. Library and laboratory advances will accommodate the increase in postgraduate students and staff. This will involve additional library space, laboratories and equipment.

## 3. Academic Developments

### 3.1. Academic Restructuring

Building on the developments of a new academic structure following an 'Agenda for Change' in the previous academic year, Trinity College commenced a programme of restructuring during 2005/06. By the end of July 2006, the former academic structure which comprised of 64 individual departments grouped into six faculties was replaced by a structure comprising 21 Schools, two Vice-Deaneries and the Irish School of Ecumenics. This flat structure consisting of 24 academic units poses considerable governance challenges, and in July 2006 the Board approved, in principle, the establishment of three or five 'clusters' of Schools. A working group of the College Board on restructuring has been established to investigate this option with a view to making a recommendation to the Board at the end of Michaelmas Term 2006.

### 3.2. Academically-based Resource Allocation Model

Trinity College developed an academically-based resource allocation model (ARAM) and applied this model in 2004/05 and in 2005/06. It was envisaged that the ARAM would be implemented over a four year period. While it is generally accepted that the ARAM provides greater transparency and accountability throughout the College, there is some concern that the timeframe for its full implementation is too ambitious, and thus this timeframe is currently being reviewed. A holistic review and refinement of the model is on-going.

### 3.3 Administrative Reform

During 2005/06 two separate Taskforces considered administrative reform: Taskforce 1, concerned with matters relating to location, value for money and new structures for Trinity's administrative and support services, reported to the Board in July 2006. This Taskforce recommended, among other things, that in order to achieve optimum value and economies of scale in the delivery of administrative and support services to underpin academic activity, the 24 academic units should be grouped into three clusters. This option is now being considered as part of the remit of the working group on restructuring. The second Taskforce, concerned with the number and role of Academic Officers and College central governance, suspended its activity until a decision is taken on the final organisation of the academic structure.

### 3.4 Strategic Innovation Fund

In July 2006, the Higher Education Authority issued a call for proposals for funding under the Strategic Innovation Fund (SIF), as established by the Minister for Education and Science. This was the first call for proposals and €42 million was available for allocation.

The key objectives of the SIF were:

- to enhance the delivery of core activities of education and research, through effective and creative institutional and inter-institutional collaboration and including, where necessary, appropriate internal restructuring and rationalisation efforts.

- to support enabling measures to prepare for the expansion and development of post-graduate education (including expansion and development of graduate schools), including both intra- and inter-institutional collaboration.

- to support innovation and quality improvement in teaching and learning, including enhanced teaching methods, programme restructuring, modularisation and e-learning.

- to support access, retention and progression both at individual institutional level and through inter-institutional, sectoral and inter-sectoral collaboration.

Trinity collaborated with NUI Galway and UCC on three projects for this first phase of SIF. The projects are (i) change management/restructuring, (ii) graduate education/4th Level, and (iii) teaching and learning. Each university took a lead on one of the projects and all three projects were successful.

### 3.5 THES World University Rankings

Trinity College Dublin was the only university in the State to feature in the top 120 universities and the top 50 European universities in the 2005 Times Higher Education Supplement's world university rankings.

The THES university rankings list the world's top 200 universities measured on peer review, number of citations per faculty member, ratio of students to staff and the number of international students and staff. Trinity was also the only Irish university to feature in the THES world's top 100 science, engineering and information technology institutions. It was judged by international peers to be 88th in the world and by international employers to be 76th in the world. Such high rankings are outstanding achievements for a university in a small country, competing internationally with much larger and better-resourced universities.

### 3.6 National Institute for Intellectual Disability

The National Institute for Intellectual Disability (NIID) was launched by the Minister for Education and Science, Mary Hanafin, TD in May 2006. Offering the first full-time university course in Ireland for people with intellectual disability, the NIID's aim is to identify through education and research the central issues affecting the lives of people with an intellectual disability and to ensure their full inclusion both inside and outside the College. The NIID has also won prestigious European Commission Marie Curie Fellowships for two major projects to develop the Institute as a centre of excellence in the area of inclusive research.

## 4. Academic Matters

### 4.1 Student Body

The College's student population is diverse in nationality, social class and age. Every county in Ireland is represented and there are students from more than 80 countries.

In total, there were 15,322 registered students in 2005/06. Of these, 7% were from EU countries other than Ireland, 3% were from Northern Ireland, 3% were North or Central American, and 3% were from other parts of the world.

The College fulfilled the policy of reserving 15% of CAO quotas for non-traditional students - including those from a socio-economically disadvantaged background, those with a disability and mature students - when in 2005, 15% of all CAO places were filled by non-traditional students, up from 11% in 2004. Seventy-one percent of the non-traditional students registered in 2005 were mature students.



*NIID students, Helen Donnelly and Greg Rooney meet the Minister for Education and Science, Mary Hanafin TD at the official launch of the National Institute for Intellectual Disability*

### 4.2 Admissions Statistics / Entrance Exhibitioners

Trinity attracted a substantial proportion (12%) of first-preference applications in the CAO system in 2005.

The academic calibre of Trinity students remains impressively high and the College continues to attract the highest number of academically talented students. A total of 491 first-year students were awarded 'Entrance Exhibition Awards'. The students receiving these awards each achieved 545 points or higher (more than 6 A2 grades) in their Leaving Certificate examination or equivalent second level examination. The students represented 256 schools from all 32 counties in Ireland as well as from other EU schools. Approximately three per cent of more than 54,000 Leaving Certificate CAO applicants for degree courses attained this achievement: 26% of this talented group of students chose Trinity College to pursue their third level education.

### 4.3 Scholarships

Sixty-five Scholars were elected in 2006 representing all Faculties:

Faculty of Arts and Humanities (8);
Faculty of Social and Human Sciences (12);
Faculty of Engineering & Systems Sciences (3);
Faculty of Health Sciences (15);
Faculty of Science (16);
Multi-Faculty courses (11).

## 4.4 The Curriculum - New courses

The College continued to encourage and support new courses built around new areas of knowledge and students' needs and introduced the following postgraduate courses in 2005/06:

**Degree**
M.Phil in Modern Irish History
M.Sc. in Mechanical Engineering (Erasmus Mundus)
M.Sc. in Clinical Chemistry

**Diploma**
P.G.Dip./M.Sc. in Mental Health

The first Masters degrees in Cardiac Rehabilitation to be awarded in Europe were conferred upon seven recipients at Trinity College in 2005.

A key objective of the College's Strategic Plan is the implementation of the Broad Curriculum policy, which sets out to promote nine attributes seen to be desirable in a Trinity College student and graduate: inquisitiveness, analytical ability, adaptability, breadth of reading, ethical responsibility, international outlook, articulacy, literacy, and numeracy. The promotion of these attributes underpins a series of initiatives which have become increasingly embedded within the College curriculum. Two of these initiatives, Cross-Faculty Courses (13 of which were available in 2005/06) and Post-graduate Teaching Studentships, received funding from Atlantic Philanthropies. Four hundred and sixty students completed a Broad Curriculum course in 2005/06.

Engagement with the Bologna process continued. The on-going review of the use of the European Credit Transfer and Accumulation System (ECTS) in TCD programmes was re-focused by a decision of the University Council in June 2006 to standardize the credit weighting of all undergraduate and postgraduate taught course components/modules in units of 5 ECTS, or multiples of 5 ECTS, with effect from the 2007/08 academic year.

A Call for Proposals was issued inviting submissions from the Schools for funding in 2005/06 under three broad headings: strengthening of the European dimension in higher education, mobility for staff and students, and developments aimed at promoting lifelong learning. Submissions were considered by the Deans' Committee, and funding totalling €203,000 was allocated to twenty projects, mainly in academic departments, for the 2005/06 academic year.

## 4.5 Commencements, Firsts and Gold Medal Awards

Thirty commencement ceremonies were held in 2005 during which 4,036 degrees were conferred (2,767 primary degrees and 1,269 higher degrees).

Three hundred and forty six students received first class honors (primary) degrees in 2005/06 and, of these, 54 were awarded Gold Medals.

Honorary conferring took place at the Commencement ceremonies on 16 December 2005 and 7 July 2006. At the Winter Commencements, Dr David Thomas, Mr Michael Adams, Mr Jostein Gaarder, Prof Jane Roberts and Prof Wilson Sibbett were honored. Recipients of honorary degrees at the Summer Commencements were

Dr Jeffrey Sachs, Judge Maureen Harding Clark, Mr Paul Haran and Prof Gunnar Fant.



*Celebrating their election to Scholarship on Trinity Monday 2006 were Stephen Walsh, Killiney, Ciara Murphy, Galway and Oisin Tobin, Rathfarnham.*



*The Provost, Dr John Hegarty congratulates two of the Honorary Degree recipients Charles Handy, Management Thinker (left) and Dr Jeffrey Sachs, Columbia University Economist and United Nations Advisor at the Summer Commencements 2006*

## 4.6 Trinity Access Programmes

The Trinity Access Programme (TAP) is part of Trinity's contribution to tackling educational disadvantage and is a clear demonstration of the College's social mission in action. Its key aim is to increase the proportion of students from low income groups progressing to third level. TAP owes its continued success to a network of highly productive partnerships with schools, further education colleges, families, students, Trinity staff, businesses, community groups and other Higher Education institutions, nationally and internationally.

TAP receives its funding from the Higher Education Authority through the Strategic Initiatives Fund, the Department of Education and Science and a number of individual and corporate donors.

These funds support the following initiatives:

- The Primary and Second Level Programmes

- The Pre-University Preparation Courses: Young Adults and Mature Students, TCD

- The Partnership Courses in Liberal Arts: TCD and City of Dublin Vocational Education Committee Colleges (CDVEC)

- The Post Entry Progression Programme



*Students at the launch of the TAP Summer School 2006 in College Park, TCD*

### 4.6.1 Primary and Second-Level Programmes

The Primary and Second-Level Programmes link Trinity College with schools which have little or no tradition of progression to third-level. The Primary Schools Programme links with 19 primary schools. In 2005/06 TAP was assisted by some 30 College departments in delivering activities including the Mathematics and Science Exploration Programme for sixth-class pupils and 'Take the Lead' for fifth-class pupils. The Second-Level Programme links TCD with 20 second-level schools in disadvantaged areas and seeks, through a variety of outreach supports, to increase the number of students in these schools who progress to third-level. A combination of over 4,000 students, parents and teachers participated in on-campus activities with the Primary and Second-Level Programmes in 2005/06.

### 4.6.2 Foundation Course for Higher Education – Mature Students

This one-year foundation course, which seeks to counteract educational disadvantage, had 23 students registered in 2005/06. Seventeen students successfully completed the course obtaining a Certificate in Foundation Studies for Higher Education. All of these students progressed to Degree courses (12 to TCD, two to St Patrick's College, Drumcondra, one to NUIM, one to DCU and one to the Institute of Technology Blanchardstown).

### 4.6.3 Foundation Course for Higher Education – Young Adults

This is a one-year foundation course that caters for young adults (17-20 years old) who have academic potential but who require an

additional year of education to prepare for third-level. Students submit applications and supporting documentation and are assessed in order to ascertain their level of socio-economic disadvantage. In 2005/06 twenty-six students registered on this course, and 23 of those successfully completed the course. Twenty-one of them progressed to undergraduate programmes in Trinity.

### 4.6.4 Higher Education Access Route

Students from schools affiliated with any one of the access offices from TCD, DCU, NUIM, UCC, UCD and UL are eligible to apply to the Higher Education Access Route. The scheme targets those who, for a variety of social and economic reasons, are underrepresented at third-level. The applicants are required to meet the minimum academic standards for entry into Trinity. However, the entry level for admission (i.e. Leaving Certificate points) is lower than the competitive academic entry level.

Seventy-eight students across all Faculties accepted Higher Education Access Route places in 2005/06.

### 4.6.5 Partnership Foundation Course

As part of College's efforts to meet the 15% quota of non-traditional students in undergraduate programmes, an arrangement has been entered into with three City of Dublin Vocational Education Committee (CDVEC) colleges to develop and co-deliver a Liberal Arts College Preparation Course for access to a range of undergraduate courses in TCD. The CDVEC colleges, supported by Trinity College, successfully negotiated with the Further Education and Training Awards Council (FETAC) for accreditation within the National Qualifications Framework. Thirteen students from this scheme progressed to undergraduate courses in Trinity College in 2005.

### 4.6.6 Post-entry Progression Programme

TAP has developed a range of post-entry supports in response to student needs. These include a two-week pre-university programme, financial and personal support, extra tuition, a Writing Resource Centre, a Maths Help Room, the Studio (learning resource centre), a supported accommodation scheme and end-of-term review workshops. TAP also works closely with other support services in College including the Library, Student Counselling, the Disability Support Service, the Health Service, Accommodation and the College Tutorial Service to ensure that the transition to third level is smooth and to support the successful completion of degree programmes by TAP students.

### 4.7 Provost's Teaching Awards

Recipients of the 2005/06 Provost's Teaching Awards were: Professor Ivana Bacik, School of Law, Ms. Katrin Eberbach, Department of Germanic Studies, and Dr. Martin Henman, School of Pharmacy and Pharmaceutical Sciences. Recipients were all recognised for their dedication and commitment to teaching and learning excellence. In addition, Ms. Inmaculada Arnedillo-Sanchez, School of Computer Science and Statistics / School of Education, was presented with an Early Career Award for excellence in teaching.

The awards are College's principal means of acknowledging those academic staff who have made an outstanding contribution in the pursuit of teaching excellence in College and who promote teaching as a scholarly activity.



*Prof Ivana Bacik, School of Law, Ms Inmaculada Arnedillo-Sanchez, School of Computer Science and Statistics, and School of Education, Dr Martin Henman, School of Pharmacy and Pharmaceutical Sciences and Ms Katrin Eberbach, Department of Germanic Studies, recipients of the 2005/06 Provost's Teaching Awards with the Senior Lecturer, Prof Colm Kearney (second from left)*

### 4.8 Academic Appointments

Twelve appointments to Professorial Chairs were made in 2005/06.

**Newly Established Professsorial Chairs**

Professor of Ecumenics (2005)
Professor Linda Hogan
Research Professor of Psychiatry (2006),
jointly with St Patrick's Hospital
Professor Declan McLoughlin
Professor of Psychiatry (2005),
jointly with the Adelaide and Meath Hospital, Dublin
incorporating the National Children's Hospital and the
Health Services Executive
Professor Harald Hampel

**Established Professorial Chairs**

Professor of Early Irish (1996)
Professor P D J McManus
Professor of Latin (1870)
Professor Anna Chahoud
Regius Professor of Greek (1761)
Professor Brian McGing
Professor of Civil Engineering (1842)
Professor Margaret O'Mahony

**Personal Professorial Chairs**

Professor Ruth Byrne Psychology

Professor Vinny Cahill Computer Science
Professor Ian Graham Clinical Medicine
Professor John O'Hagan Economics
Professor Luke O'Neill Biochemistry

**SFI Research Professorship**
Professor Mani Ramaswami
SFI Research Professor of Zoology

In addition, one Senior Lecturer and 69 Lecturers were appointed.

## 5. Quality

### 5.1 Academic Department Reviews

Because of the implementation of the new College structures, the academic review process was suspended during 2005/06. During this period, the focus of quality assurance activity was to support the emerging new structures and to undertake a thorough review of College's quality assurance review process to reflect its new academic structures more accurately.

The Quality Committee considered the eighteen-month progress reports from the following areas during the year:  the Centre for Language and Communication Studies, the School of Radiation Therapy, the School of Psychology, the Department of Anatomy, the Department of Public Health and Primary Care, and the Department of Computer Science.

### 5.2 Service Department Reviews

Reviewers' final reports were received on reviews of the Student Counselling Service, the Careers Advisory Service and the Student Disability Service.  They were considered by the Student Services Committee and all the reviewers' recommendations to Board were noted and approved. As a result of the on-going review of College's administrative and support structures, no reviews of service departments were conducted in the 2005/06 academic year.

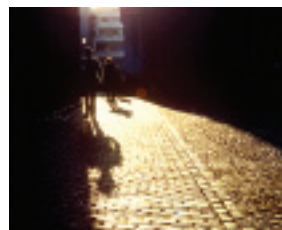## 6. Research Activities

### 6.1 Research Themes

At the heart of the strategy to meet the College's goal of being a world reference point in key areas is a focus on interdisciplinarity, where research teams across a number of disciplines work together. Trinity has already developed significant international strength in its research in eight major research themes, namely: Globalisation; Ireland: Culture and the Creative Arts; Communications and Intelligent Systems; Nano and Materials Science; Immunology and Infection; Cancer; Genetics; and Neuroscience. It is the College's aim to become a world-class leader in at least one of these areas in the next 10 years.

Examples of strong research performance during the 2005/06 academic year include the fact that TCD's Genetics Department is in the top 50 worldwide, the Immunology Department is in the top three worldwide, its Neuroscience is in the top 0.01% and its publishing in Arts and Humanities is foremost in Ireland.

## 6.2 Research Funding

In 2005/06, TCD was highly successful in securing funding for research activities. Income to support all research activities reached a level of €58 million for the year. The number of research accounts stands at 1,456, on par with the previous year.

Over the last number of years, there has been a shift in sources of research funds away from EU/foreign sources to Irish sources largely driven by Science Foundation Ireland and HEA-funded PRTLI initiatives. Research activity supported 1,412 employees in 2005/06, a slight increase on the previous year.

The financial administration in respect of research accounts has increased dramatically due a number of factors: the trend for 100% audits, rather than sample audits, has increased; the overall number of audits has increased; the administration regarding the distribution of Institutional overheads e.g. SFI and Enterprise Ireland has become more complex; sponsors, such as SFI, have made their terms and conditions more stringent; and an increase in the financial accountability to sponsors, e.g. HRB, has also been observed.

2005/2006 has also sharpened our focus on complex and challenging areas, such as coordinating EU and non-EU research consortiums.  Full recovery of indirect costs is becoming also increasingly important for the College, due to the inadequacies of the current overhead funding rates and the fact that TCD does not support a Full Economic Costing Model (FEC).

| Source of Research Activity Funding | Year ended 30 Sept 2006 |
| --- | --- |
| Science Foundation Ireland | 40 % |
| Enterprise Ireland/Bioresearch Ireland/PATS | 8 % |
| Higher Education Authority | 8 % |
| Commission of the European Communities | 12 % |
| Others | 32 % |

## 6.3 Trinity College's New Research Initiatives

In addition to Trinity College's ongoing interdisciplinary research initiatives such as the Centre for Research on Adaptive Nano-structures and Nanodevices (CRANN), the Trinity College Institute of Neuroscience (TCIN) and the Institute for International Integration Studies (IIIS), the following new research initiatives were launched during 2005/06:

### The Trinity Ageing Consortium

The Trinity Ageing Consortium, a consortium of the College's research centres/institutes and Schools, was launched in December 2005. It exists to promote research and teaching in ageing and to develop and sustain a comprehensive research agenda on ageing.  Its flagship project is the Irish Longitudinal Study on Ageing (TILDA) which has received €10 million in funding. Its aim is to conduct a comprehensive longitudinal study of ageing in Ireland with a broad set of research questions, including biomedical, social, financial and qualitative life history strands.

### The National Longitudinal Study of Children

The Minister for Children, Brian Lenihan TD, launched the National Longitudinal Study of Children in April 2006. The Study was awarded to Trinity College's Children's Research Centre in conjunction with the Economic and Social Research Centre (ESRI) and has received €24 million in funding from the Office of the Minister for Children for the first phase. This is the largest study ever conducted in the health and social sciences.

### The Hamilton Mathematics Institute

The Hamilton Mathematics Institute was launched in September 2005. The Institute which is named after Trinity's famous graduate, the mathematician and scientist, William Rowan Hamilton, is the first institute in Ireland which exclusively fosters mathematics and related disciplines. Its aim is also to improve the public understanding of mathematics.

### The Long Room Hub

The College launched the Long Room Hub, an initiative which is set to transform international research in the arts, humanities and social sciences, in June 2006. Its current flagship projects include the Pollard collection of children's literature, an electronic catalogue of bardic poetry and an Irish film and television database.

## 6.4 Research Links with Other Institutions

### Clinical Research Centre

An initiative led by Professor of Clinical Medicine, Dermot Kelleher, for a major clinical research centre at St James's Hospital was awarded €20 million in funding by the Wellcome Trust and the Health Research Board. The proposal, headed by Professor Kelleher in collaboration with senior researchers from the three Dublin medical schools at TCD, UCD and the RCSI, was coordinated through the Dublin Molecular Medicine Centre. The new clinical research centre will be built at St James's Hospital, a teaching hospital of Trinity College, in 2009.

### Trinity-IMI Graduate School of Management

The School of Business and the Irish Management Institute (IMI) launched the joint initiative of the Trinity IMI Graduate School of Management in October 2005. The new graduate school will build on the foundations of the Trinity MBA and the suite of M.Sc (Mgmt) degree programmes currently delivered across the two institutions. It will focus on providing world-ranking management development through executive education for senior executives and an ambitious programme of research on management and competitiveness issues.

### Trinity-IMI Strategic Partnership with Babson College

In December 2005, the Trinity-IMI Graduate School of Management signed a strategic partnership with Babson College in the US, which will develop educational programmes that promote and support entrepreneurship and stimulate entrepreneurial activity in all organisations. The partnership will include student exchange programmes for PhD, MBA, MSc and undergraduate degree students to allow for a regular flow of students between the schools.

## Liberty Project

The Liberty Project, a consortium made up of Trinity College, UCD and DCU, won the bid to operate a new research and development facility which will replace Media Lab Europe in Dublin's Digital Hub.

## Able 4 College

A new website for students with disabilities, *Able 4 College*, which was the end result of a joint three-year research project between Trinity College and the Institute of Technology, Tallaght, was launched by the Minister for Education and Science, Mary Hanafin, TD in December 2005. The HEA-funded research project's aim was to improve the retention rate of students in third-level education and support students with disabilities in their career choices and employment options. The website provides advice and support to students with disabilities, their parents and guidance counsellors.

## Institute for Bioprocessing Research and Training (NIBRT)

In January 2006 the National Institute for Bioprocessing Research and Training (NIBRT) was incorporated. A co-operative venture between TCD, UCD, DCU and IT Sligo, IDA Ireland has made a strategic decision to invest in the establishment of the Institute with a view to fostering collaborative academic and industry research in bioprocessing technologies.

### *6.5 Scholarship and Award Success for TCD's Researchers*

Trinity researchers across all disciplines received recognition for their achievements, both at home and abroad.

Two Trinity staff members were elected to the Royal Irish Academy in 2006: Associate Professor of Modern History, David Dickson and Professor Seamus Martin, Smurfit Professor of Medical Genetics.

Trinity College's first Associate Professor of Film Studies, Kevin Rockett, received the American Library Association's Outstanding Academic Title award for his book on Irish film censorship. (In 2005, the American Library Association's *Choice* magazine received over 23,000 books for possible review. Of these, almost 7,000 were reviewed but only 682 books received the Outstanding Academic Title award.)

Smurfit Professor of Medical Genetics, Seamus Martin, received the 2006 GlaxoSmithKline award from the UK Biochemical Society. This award is presented every two years in recognition of distinguished research leading to new advances in medical science. Professor Martin works on the genetic control of cell division and cell death and his research is supported by a five-year Principal Investigator Award from Science Foundation Ireland.

Professor Adrian Constantin, who holds the Erasmus Smith's Chair of Mathematics, was awarded the prestigious Goran Gustafsson prize from the Royal Swedish Academy for his outstanding research on Partial Differential Equations. The first person in Ireland to receive this prize, Professor Constantin has a special interest in the study of water waves.

Science Foundation Ireland (SFI) approved 15 proposals for the Walton Visitor programme 2006. Trinity College submitted five applications (the maximum number an institution can submit), three of which were approved. The Walton Visitor awards facilitate visits by international researchers to Ireland for periods of up to one year.

Dr James O'Donnell, Department of Haematology, was the first Clinician Scientist to be presented the President of Ireland Young Researcher Award. He will be funded for a five-year period by SFI. His research aims to improve our understanding of the role of the Von Willebrand factor, which plays a central role in normal blood clotting, in common vascular diseases.

The SFI Principal Investigator Career Advancement Award supports women in research careers at every level and takes into account the different needs of women, and indeed any individual, who has interrupted their career for maternity, adoptive, carers' or parental leave. SFI has funded ten applications for the SFI Career Advancement Awards in Ireland and three of these will be hosted in Trinity College.

In May 2006, SFI recommended funding for 41 Research Frontier Programme applications from Trinity College. These programmes of work span a variety of discipline areas.

Three hundred and nine applications were made to the Health Research Board's Research Project grant scheme 2005, of which 75 were subsequently funded and of these, 13 were awarded to Trinity College.

The College obtained funding from the Environmental Protection Agency (EPA) for three new project grants, three Doctoral Scholarships and one Research Fellowship in 2005.

Since the summer of 2005, 14 Proof of Concept Proposals were funded in Trinity College by Enterprise Ireland (EI). In such projects individuals or small groups work on short applied projects in order to develop a product to a commercially viable stage. Seven EI Technology Development projects, where the research is aimed at major technology development involving the College were also funded in the spring of 2006. The funding awarded supports research in areas of technology of medium-term interest to industry in Ireland.

The Irish Research Council for Humanities and Social Sciences (IRCHSS) awarded Trinity College 22 out of a total of 94 Post-graduate Scholarship awards. TCD applicants also received five Postdoctoral Fellowships, two Research Fellowships and two Senior Research Fellowships.

The Irish Research Council for Science, Engineering and Technology (IRCSET) granted funding to 28 Trinity researchers under its Embark Initiative Postgraduate Research Scholarship Scheme and 11 under the Postdoctoral Fellowship Programme.

The Centre for Telecommunications Value-chain Research, funded by SFI, has been awarded the world's first software-radio test licence from the Irish Commission for Communications Regulation (ComReg). The licence enables the CTVR researchers to test and exploit highly sophisticated reconfigurable and cognitive wireless communication networks that are being designed by the group.

# 7. Innovation and Industrial Collaboration

## 7.1 Intellectual Property

Over recent years the College has been very successful in securing investment for research and development through the Higher Education Authority, Enterprise Ireland and Science Foundation Ireland in addition to the European Framework Programmes etc. With this investment in research we expect to see the emergence of new products and services with real market potential. Trinity's Research and Innovation Services is tasked with providing support in the technology transfer process.

The two principal vehicles for transferring research outputs to industry are:

• Licensing of intellectual property to third parties, and
• Campus company spin offs.

In order to capitalise on the results of research the intellectual property must be captured and protected. As an indicator of the College's success in this area, Trinity filed 23 patent applications during 2005/06.

## 7.2 University and Industry Collaboration

CRANN, Trinity's Centre for Research on Adaptive Nanostructures and Nanodevices, supported by Science Foundation Ireland is working with Intel Ireland to develop a new silicon chip. Called the Adaptive Grid, the patterned chip is suitable for testing materials and devices at the nano scale of a billionth of a metre. The Adaptive Grid provides CRANN with a huge competitive edge in its research efforts. An event held in Trinity in April 2006 recognised this industrial-academic achievement.

The Centre for Telecommunications Value-Chain Research (CTVR) is focused on applying a value-chain perspective to research aimed at realising the next generation of telecommunications networks. Headquartered at Trinity, it brings together a multi-disciplinary group of researchers drawn from many Irish universities together with a carefully chosen set of industrial partners including Lucent and Bell Labs Ireland to work on those engineering and scientific challenges that will make the most difference to the telecommunications networks of the future.

Following a very favourable review of the Biosciences programme in TCD, the Associate Dean of Research and the Industry Liaison Manager actively pursued industry/academic partnerships, including ambitious plans for a lifesciences building programme.

## 7.3 Campus Companies

Opsona Therapeutics Ltd, a campus company formed during the last academic year, entered into collaboration with Wyeth Pharmaceuticals, for the discovery, development and commercialisation of compounds to treat inflammatory diseases such as rheumatoid arthritis and systemic lupus erythematosis, in addition to applications in other fields including cancer and vaccines.

CREMe Software Ltd, which was incorporated in 2005, secured several contracts in Europe in the past year. CREMe 2.0, the latest in high performance risk exposure assessment tools, was launched in March 2006.

Cellix Ltd, an instrumentation company, is providing new and exciting microfluidic technology-based solutions in the areas of drug discovery, diagnostics and medical research. Stemming from a collaborative partnership between TCD's Departments of Physics and Clinical Medicine, Cellix has developed and produced disposable biochips capable of mimicking human capillaries.

## 7.4 Entrepreneurship and Innovation

Trinity's Entrepreneurship programme is growing in size and strength. This year students participated in the International Idea-2-Product competition in Austin, Texas. The collaborative projects between students from the TCD MBA class programme and the promoters of new ventures was a great success with a pilot programme collaborating with MBA teams located in the Fox Business School in Philadelphia. The TCD MBA class also participated in a three-day Boot Camp for Entrepreneurs run jointly with the Dublin Business Innovation Centre at the Guinness Enterprise Centre in January 2006.

Trinity's Innovation activities contributed to the 22 region EU PAXIS Programme whose manual for Innovation Policy makers and practitioners had an introductory comment by Catherine Byrne, Lord Mayor of Dublin. This completed a three-year programme which is to be followed by an international innovation marketing project Euro Office Services in which TCD will participate.

# 8. Capital Development Programme

## 8.1 Completed Projects

The College's capital development programme continued strongly. A number of centres of research excellence were launched, to be housed in new buildings, offering state-of-the-art facilities and teaching centres.

### The National Institute for Intellectual Disability

The National Institute for Intellectual Disability (NIID) was launched by the Minister for Education and Science in May 2006. Located in refurbished premises in 3 College Green, the NIID offers the first full-time university course in Ireland for people with intellectual disability.

### Lloyd Institute

The Lloyd Institute was brought into full use during the 2005/06 academic year, providing a significant increase in the teaching and research space available to the Departments of Computer Science, Statistics, High Performance Computing and the Institute of Neuroscience. Named in honour of Provost Humphrey Lloyd, who held office from 1867–1881, the 9,000 sq.m. Institute situated in the north east corner of the campus was completed at a cost of €36 million.

## 8.2 Construction Projects Underway

### North East Corner project (Naughton Institute and Sports Complex)

Construction work continued on one of the largest, and probably the most complex, building projects undertaken by the College in the North East Corner of the campus. The project consists of two
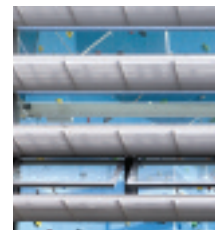
elements – the Naughton Institute and the Sports Complex. Costing €56 million, it is due to be completed by mid-2007.



*The Naughton Institute*

## Naughton Institute

The country's first purpose-built nanoscience research institute, which will be known as the Naughton Institute in recognition of a €5 million donation from Dr Martin Naughton, Chairman of the Glen Dimplex Group, will house 150 scientists, technicians and graduate students in a state-of-the-art facility and will provide them with the tools required to explore the world of nanoscience.

The Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) will be located in the Institute. Science Foundation Ireland has committed €21 million to the project to date, with almost €10 million being used to fund research activity and €11 million for the construction of specialised vibration-free laboratory facilities. Projected to cost €29 million and to be completed by mid-2007, researchers and scientists at the Institute will be able to develop apparatus and techniques to build new structures and devices atom by atom, which has endless possibilities for biotechnology, information and communications technologies.

This building will also house an innovative public venue - The Science Gallery - a national initiative devoted to promoting public understanding of science. Best enjoyed by teenagers and adults, this flagship project will celebrate science and technology through a dynamic series of interactive exhibitions, events, discussions and debates.

## Sports Complex

The new Sports Complex contains 6,500 sq.m. of space, housing a 25m, six-lane swimming pool with adjoining sauna and steam room. The pool incorporates a floating floor which allows the depth in the pool to be adjusted to cater for a wide range of activities from beginners' lessons to scuba training and water polo. Other facilities include two sports halls, a substantial fitness theatre, an aerobics studio together with accommodation for sports clubs and spaces for reflexology and other holistic treatments. The building has separate high quality changing areas for wet and dry sports. A striking element of the building is the spectacular climbing wall which will be visible for almost the entire height of the building from Westland Row.

### 8.3 Proposed Construction Projects

#### Pearse Street Development

The College's plan for the redevelopment of its Pearse Street property is the outcome of an international architectural competition held in 2002. The development comprises a phased development strategy for new buildings on the north side of the College sports grounds and refurbishment of retained nineteenth century terraced houses along the College's northern boundary. The proposed area of the completed development is scheduled at 18,400 sq.m. (including 4,400 sq.m. of refurbished/retained building area).

The majority of the accommodation will be provided in two new buildings to be built on a site north of the Rugby Pitch. These buildings will be linked by walkways at two levels to the houses on the Pearse Street terrace which are to be refurbished to provide residential accommodation at the upper levels. A mix of recreational and academic activities, including shops and cafes that will enliven Pearse Street, will be housed in the ground floor spaces. The project will include a new pedestrian entrance along the Northern boundary of the College together with the reordering of the Luce Hall to provide a Students' Centre following the transfer of sporting activities to the new Sports Centre.

#### Trinity Centre, Tallaght Hospital, Phase 2

Planning permission has been received from South Dublin County Council for a 5,000 sq.m. development to be built alongside the existing Trinity Centre at Tallaght hospital. The proposed building, estimated to cost €20 million, will complete the College's accommodation for the Nursing degree programme and will provide 4,000 sq.m of research space.

#### Trinity Research Centre for Irish Art

Planning permission has been obtained for a €1.5 millon project to restore the stables adjoining the Provost's House and convert them into a Research Centre for Irish Art. The new research and teaching facility will include a teaching/exhibition space, study area and ancillary services at ground floor level and a reading/archive room and offices at first floor level. Accommodation will be provided for five staff and up to 15 readers, with classroom space for up to 18 students. Funded by private sponsors, works for this project are scheduled for completion in Summer 2007.

#### An Post Site Redevelopment

This site, between Cumberland and Sandwith Street, is currently used as a surface car park. It is to be redeveloped to provide a mixed development of academic and commercial space. Subject to planning permission, the project is scheduled to start on site in 2007. A Biosciences Institute with supporting facilities and additional third level teaching and research accommodation will be housed in this development. The commercial space will include shops, office accommodation and laboratory space. The development adjoins Pearse Railway station and the design incorporates a new entrance to the station.

## 9. Fundraising

Trinity Foundation raises funds to support the development of Trinity College Dublin, helping it to fulfill its mission to be a university of global consequence. The Foundation believes that Trinity has always played and will continue to play a pivotal role in helping Ireland be the most productive place to invent, work and learn, and the most civilised place to live and contribute to local and global society.

To play this role, and be a leading, internationally recognised university, Trinity cannot rely on State funding alone - securing private support is essential to the future of this University. In the five years ending 30 September 2006, Trinity Foundation was instrumental in raising just under €100 million for priority Trinity projects - the results of this funding can be seen throughout College in terms of new buildings, new academic staff and funding for research and outreach programmes.

## 10. Financial Position

The Funding Statements for the year ended 30 September 2006 prepared on an agreed harmonised basis for the Irish University sector were approved by the Board on 24 January 2007 and represent Part I of the financial reporting requirements of the University Act. The Funding Statements only report the core teaching/research and research grants and contracts activity in the Income & Expenditure Account. Part II reports all College activities (both core teaching and research and self funding activities) in the Income & Expenditure Account of the Consolidated Financial Statements in accordance with generally accepted accounting standards. The finalisation of Part II is currently on hold awaiting clarification from the Higher Education Authority (HEA) regarding the technical accounting treatment of pension liabilities.

The deficit for the year amounted to €5.1 million (Appendix I) which resulted in the College's accumulated deficit increasing to €6.67 million at 30 September 2006. The financial position of the College continues to worsen mainly due to the cost of compliance with the Protection of Employee (Fixed Term Work) Act 2003 (FTWA) for which no additional funding has been received from the Government. This financial situation is now a cause for serious concern when one takes into account an estimated deficit position for 2007 and further uncertainty in relation to future funding levels to the College following the full implementation of the new HEA Recurrent Funding Model. The College continues to find itself in a financial straitjacket with limited capacity to respond to financial shocks in the absence of base funding levels and the OECD recommended multi-year funding, both of which are needed to provide higher education institutions with a secure platform for financial planning on a year-to-year basis. The continuing real reduction in State funding runs counter to the goal of achieving the efficient knowledge-based economy that Ireland strives to achieve.

In contrast to teaching, the funding environment for research is strong with Research Grants and Contracts activity (represented by expenditure) amounting to €60.5 million for the year. Growth patterns in research for the 10, 5 and 3 year periods to 30 September 2006 have been 316%, 140% and 26% respectively. The level of

income generated from Irish and non-Irish sources this year is 83% and 16% respectively with the equivalent percentages at 30 September 2001 of 62% and 38%. This shift is mainly attributable to Science Foundation Ireland and PRTLI. During this period of growth and success in winning research funding, the College has found the support systems in both academic and non academic areas under increasing strain since the contribution to indirect costs has been below the full economic cost of hosting the research. The inadequate level of overhead funding that travels with research has resulted in the teaching budget subsidising research activity. This position is not sustainable.

The complete withdrawal of the annual backlog maintenance grants combined with real reductions in recurrent grant have had such an impact on maintenance levels that College buildings will deteriorate to a point where they will gradually become unusable. This in turn will have an ongoing long-term effect on the fabric of the University.

The pension funds of the University sector are currently the subject of ongoing discussions with the HEA with regard to sector's financial positions, contribution rates, FTWA issues and State guarantees. Resolution of all pension-related issues is critical for all stakeholders.

The one year picture of the financial situation outlined above must be looked at in the context of the overall funding environment for the sector over a number of years. Recently developed statistics prepared by the Irish Universities Association, using unweighted full time equivalent student numbers and careful analysis of pay and non pay inflation cost increase data, show that in the period 2001 to 2006 Core Recurrent Grant per student declined by some 13% in real terms. At the same time the fees paid by the State on behalf of undergraduate students in respect of the Undergraduate Free Fees Initiative have decreased by 15.1% per student in real terms while undergraduate student numbers during this time increased by some 10%. These decreases in funding in real terms arise because of increases in student numbers and significant pay inflation arising from additional legislative requirements of the Sector and the College, including those in relation to pension contribution obligations for employees arising from the Fixed Term Workers Act 2003 referred to earlier which remains unfunded. At 30 September 2006 the level of Trinity College Dublin FTWA obligations which has been unfunded since the introduction of the legislation amounted to €21.36 million.

In essence neither legislatively driven cost increases (FTWA being the major one) nor increases in student numbers generally have been adequately funded and the position for the Irish University Sector must be seriously compromised in terms of how it can deliver quality education and research on a competitive basis when its funding levels are compared with funding levels else-where in the OECD. Statistics show funding levels to be below average and a very considerable way off the top quartile of the OECD to which Ireland aspires.

In the context of the above, the College has significant challenges ahead.

## 11. Conclusion

Despite pressures caused by funding difficulties, Trinity College performed well in 2005/06.

The *Strategic Plan Update 2006* has identified new goals for the College. Its expected impact includes the following: Trinity's international standing as a research-led university will have increased significantly and it will be the international reference point for at least one area of research. Our research achievements will be strongly reflected in our educational programmes, at both postgraduate and undergraduate levels. The developments in graduate education will advance the new 'Fourth-level Ireland', expanding the number of postgraduates and providing integrated PhD programmes that include modules for advanced and transferable generic skills.

Trinity's undergraduate curriculum and methodology of delivery will be considered the best in Ireland and will be among the best in the world. There will be a multicultural and diverse social mix among our staff and students, with a high number of international students, and the 'Trinity Experience' for both staff and students will be enhanced. Trinity's contribution to Ireland's social, economic and cultural vibrancy will be widely recognised in Irish society.

The College faces the future with confidence.

*Appendix I: Income and Expenditure Account, year ended 30 September 2006*

## Income and Expenditure Account
## Year ended 30 September 2006

|  | 2006 €'000 | 2005 €'000 |
|---|---|---|
| **Income** |  |  |
| *State Grants* | 90,874 | 89,575 |
| *Student Fees* | 69,848 | 66,148 |
| *Other Income* | 16,988 | 16,905 |
|  | 177,710 | 172,628 |
| *Research Grants and Projects* | 57,572 | 61,085 |
| **TOTAL** | **235,282** | **233,713** |
| **Expenditure** |  |  |
| *Academic Schools and Faculty Offices* | 97,244 | 92,427 |
| *Academic and Other Services* | 21,457 | 19,675 |
| *Premises* | 25,166 | 24,142 |
| *Amount Allocated for Capital Purposes* | - | 475 |
| *Central Administration and Services* | 15,080 | 11,617 |
| *General Educational Expenditure* | 7,850 | 7,177 |
| *Student Services* | 5,005 | 4,649 |
| *Miscellaneous Expenditure* | 8,079 | 7,976 |
|  | 179,881 | 168,138 |
| *Research Grants and Projects* | 60,525 | 67,086 |
| **TOTAL** | **240,406** | **235,224** |
| (Deficit) for year | (5,124) | (1,511) |