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ANNUAL REPORT 2011-2012

### Members of the Board

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Provost, Dr Patrick Prendergast (Chair) Vice-Provost/Chief Academic Officer, Professor Linda Hogan Senior Lecturer, Dr Patrick Geoghegan Registrar, Professor Shane Allwright

**Ex-Officio** Members

2011/12 academic year were:

Bursar, Professor David Lloyd Elected Fellows and Fellow Professors Dr Sean Barrett (2010-2014) Professor Robert Gilligan (2010-2014) Dr Nicola Marples (2010-2014) Professor John McGilp (2008-2012)

Members of the Board of Trinity College Dublin during the

Professor John Michip (2008-2012) Professor Eunan O'Halpin (2008-2012) Professor Henry Rice (2010-2014) Professor David Singleton (2008-2012)

Elected Non-Fellow Academic Staff Dr Melanie Bouroche (2010-2014) Ms Mary Coffey (2009-2012) Mr William Dowling (2008-2012) Dr Hugh Gibbons (2010-2014) Professor Des O'Neill (2008-2012)

Elected Non-Academic Staff Ms Noreen Murray (2010-2014) Dr Kieran J McGinley (2008-2012) Mr Fred Cowzer (2010-2012)

#### Student Representatives

President Graduate Students' Union, Ms Mary O'Connor (2011-2012) President Students' Union, Mr Ryan Bartlett (2011-2012) Education Officer Students' Union, Ms Rachel Barry (2011-2012) Welfare Officer Students' Union, Ms Louisa Miller (2011-2012)

#### External members

Dr Olive Carmel Braiden, nominated by the Arts Council (2010-2014) Mr Jackie Gallagher, nominated by the Minister for Education and Skills (2010-2015)

In Attendance Ex-Officio Secretary, Ms Anne FitzGerald Treasurer, Mr Ian Mathews

Attendance at Board meetings and Board expenses are recorded in Appendix I and II respectively



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### Introduction by the Provost



This Annual Report outlines the College's position and highlights our achievements during the academic year 2011/12 which was another very successful and productive year for the College. Key milestones include:

#### **Students**

Trinity continues to attract intellectually strong students from Ireland and abroad. First preference applications to the College were up by 5% for 2012. This increase represents the fifth successive year in which first preference applications to Trinity have increased. Twenty six percent of the total number of applicants to the CAO applied to Trinity College.

The accessibility of a Trinity education to all students of ability is an important element of our contribution to Ireland's future. Individuals from non-traditional learning groups such as those with disabilities, at different stages in their lives, and from disadvantaged sectors, have the opportunity to benefit from a Trinity education through such pioneering programmes as, for example, the Trinity Access Programmes. In 2011/12, 19% of all CAO places were filled by non-traditional students. Nine new postgraduate degree courses commenced and 4,395 students had their degrees conferred during the year. Students continued to enjoy the 'Trinity Experience' which extends beyond the curriculum to a rich tapestry of student clubs and societies that equip students for a life of leadership and civic participation.

#### **Research & Innovation**

Trinity staff members excelled in research achievements and received national and international distinction. In the course of the year, six new spin out companies were approved to commercialise intellectual property developed at Trinity, 34 patent applications were filed and 16 commercial licenses were issued. The value of new research awards entered into amounted to  $\in$ 67.1 million.

### Staff

The success of a university, and the delivery of its strategic objectives, cannot be attained without its key resource – its staff. To retain and improve the status of the College, Trinity must recruit, develop and maintain people of exceptional calibre. Recruitment activity increased this year, despite employment control restrictions. Recruitment requirements arose from research, teaching and other initiatives and was funded by a combination of State and non-Exchequer funds. Staff were hired for the backfilling of established personnel availing of unpaid and special leave; 13 second round Ussher new blood posts funded entirely from the College's commercial income; and the implementation of College strategies such as the Global Relations Strategy and eStrategy. Ten recruitment and selection processes were undertaken for Professor positions within the College.

### **Capital Development**

The capital development programme on campus continued to prosper. Among the completed projects were The Lir, National Academy of Dramatic Art at Trinity College Dublin and the new premises for the School of Medicine situated in the Trinity Biomedical Sciences Institute, both of which were officially opened.



### Introduction by the Provost

#### **Financial Position**

While the College continues to be extremely diligent and proactive in the manner in which it manages its finances, like all Irish universities, it faces financial challenges in the future such as further reductions in Exchequer funding, the Government's reluctance to reintroduce undergraduate tuition fees and the constraints of working within public sector restrictions while competing on the international stage for the best students and staff.

Decisions to continuously pursue opportunities to be more efficient and effective without fundamentally compromising on its ability to fulfil its teaching and research mission have been made by the College. Trinity is fully committed to managing its finances proactively into the future with a wider emphasis than just cost constraint and efficiency. In this regard, the College has, during the year, approved key strategies, for example the Global Relations Strategy, that will drive and support the generation of non-Exchequer income into the future. The College is managing its finances with a firm commitment to both its current and long-term health. Currently the College generates well in excess of 40% of its total income from non-State sources and our strategies foresee that proportion continuing to increase.

#### **International Standing**

Trinity was ranked 65th in the world and 21st in Europe in the 2011/12 QS World University Rankings across all indicators, with a top 50 ranking in four subjects and top 100 ranking in a further 14 areas.

#### Conclusion

I wish to thank all the staff of the College, academic, administrative and support, for their part in our achievements during 2011/12 – these could not have been attained without their dedication throughout the year.

I would also like to thank the Taoiseach, the Minister for Education and Skills, the Minister for Health, the Minister for Enterprise, Jobs & Innovation and the many Government Ministers whose support is greatly valued. The College is also indebted to the Board and Executive of the Trinity Foundation, the Higher Education Authority, Science Foundation Ireland, the Health Research Board, the Irish Research Council and the many other agencies and individuals, public and private, who have supported the College.

Patrick Prendergast Provost.



### 1. Academic Developments

#### 1.1 World University Rankings

Trinity College Dublin is ranked Ireland's leading university in the QS World University Rankings, the Times Higher Education World University Rankings and the Academic Ranking of World Universities, Shanghai.

Trinity is ranked 65th in the World and 21st in Europe in the 2011/2012 QS World University Rankings across all indicators, with a top 50 ranking in four subjects and top 100 ranking in a further fourteen areas. The College's leading 50 subjects include English, Language and Literature in 14th place worldwide; 38th in History; 40th in Geography; and 45th globally in Politics and International Studies.

The College is ranked in the QS top 100 universities in the world in each of fourteen other subjects: Biological Sciences; Chemistry; Computer Sciences and Information; Economics & Econometrics; Education; Electrical Engineering; Law; Mathematics; Medicine; Modern Languages; Philosophy; Physics and Astronomy; Psychology and Sociology.

Trinity College is the leading Irish university in all of these subjects based on a survey of over 600 universities from 27 countries in the world. With over 50,000 responses from academics and employers, it is the largest survey of its kind to date. Universities are scored according to academic reputation, employer reputation and research impact (citations).

#### 1.2 Quality

Recognised globally as a university of high quality in teaching and research, TCD's education is distinctive in being research-led and student-centred. The College is committed to maintaining the exceptional quality of its undergraduate and postgraduate degrees and research and a major strength lies in Trinity's commitment of its staff to its students. Election to Fellowship is an honour marking the exceptional quality of the College's academic staff. Research achievement or scholarship of a high order is the primary qualification for Fellowship, coupled with evidence of the candidate's contribution to the academic life of the College, as shown in particular by participation in the work of his or her Discipline or School and an effective record in teaching.

Eighteen Fellows, including two Honorary Fellows: the President of Ireland, Michael D. Higgins and Professor of Anatomy in the Royal College of Surgeons in Ireland and in the Royal Hibernian Academy, Thomas Clive Lee were announced on Trinity Monday 2012.

In 2011/12, the Quality Office facilitated the quality reviews of the School of Biochemistry & Immunology and the School of Physics, along with the Director of Buildings Area, Information Systems Services, the Secretary's Office and the Treasurer's Office. The reports arising from these reviews were generally positive and provided constructive feedback to the areas under review.

In March 2012, TCD underwent a review of the effectiveness of its quality assurance procedures as part of the Institutional Review of Irish Universities (IRIU) process and the Reviewers' report was published in June 2012.

Throughout the year, Trinity continued to engage with the principal national stakeholders involved in quality assurance/quality improvement through its participation in the activities of the Irish Higher Education Network, Quality and Qualifications Ireland (formerly the Irish Universities Quality Board) and the Irish Universities Association.

### 2. Education

### 2.1 The Trinity Community

Trinity is a community of scholars, made up of students, academic staff, and administrative staff. Diversity is at the heart of what makes Trinity distinctive, and it attracts students and staff from all around the world, and from all kinds of different socioeconomic backgrounds and experiences.

In total, there were 16,860 registered undergraduate and postgraduate students in 2011/12. Of these, approximately 78% were from the island of Ireland, 11.5% from other EU countries, 4.5% from North and Central America and 6% from other parts of the world (this includes students from European non–EU countries). In 2011/12, 58% of the student population was female and 42% was male. 11,997 (or 71%) students were registered on undergraduate programmes, and 4,863 (28.8%), on postgraduate programmes.

The student community is made up of students from all kinds of socio-economic backgrounds and age groups. In recent years, the College has been increasing the number of non-traditional students it admits, including students with disabilities, and mature students. In 2011, 19% of all CAO places were filled by non-traditional students, and 41% of these were mature students. The College's Strategic Plan (2009-14) makes a commitment to increase the proportion of underrepresented groups from 15% to 22% by 2013, and the College is in line to meet this target.

### 2.2 Admissions Statistics



Entrance Exhibition Awardees from Tralee, Co Kerry, Marianna Costello, Daragh Kneeshaw and Miriam O'Connor

In 2011 Trinity received 7,770 (or 11.5%) of first preference applications in the CAO system, an increase on recent years of 0.5%. Of the 67,360 people who applied for Level 8 courses in Irish higher education institutions through the CAO in 2011, 18,437 listed Trinity for one or more of their CAO course preferences. The College continues to attract students who are interested in the distinctive, research-led curriculum on offer, and the student body is drawn from every county on the island of Ireland, as well as from around the world. In 2011 Trinity admitted 3,548 students drawn from Ireland and sixty seven other countries around the world.

A total of 420 first-year students were awarded special 'Entrance Exhibition Awards'. These students received 560 or higher in their Leaving Certificate examination or equivalent second-level examination in the EU. In 2011 these comprised 369 students who sat the Leaving Certificate, 36 A-level students, and students from seven other EU countries (Belgium, France, Germany, Greece, Luxembourg, Norway, Romania).



#### 2.3 Scholarship



Occupational Therapy students Edith Aka, Isabel Kennedy, Carmel Cooney and Julie Donohoe celebrate being elected as Scholars

Foundation Scholarship is a College institution with a long history and high prestige, and is a distinctive feature of student life at Trinity. The objective of the Foundation Scholarship examination is to identify students who, at a level of evaluation appropriate to the Senior Freshman year, can consistently demonstrate exceptional knowledge and understanding of their subjects. A Scholarship at Trinity College remains the most prestigious undergraduate award in the country, and it is an award that has undoubtedly helped to foster long-lasting links between many outstanding graduates and the College. A principal objective of Trinity is the pursuit of excellence: one of the most tangible demonstrations of this is the institution of Scholarship. In the 2011/12 academic year 104 students were awarded Scholarships on Trinity Monday 2012, a record number in the history of the College. Recipients of the scholarships represented all faculties: the Faculty of Arts, Humanities and Social Sciences (32); Faculty of Engineering, Mathematics and Science (24); Faculty of Health Sciences (36); and Multi-Faculty (12).

#### 2.4 The Curriculum – New Courses

The following courses commenced at the beginning of the 2011/12 academic year:

#### Postgraduate

- M.Sc. in Business and Management
- Masters in Medicine
- M.Sc. in Psychoanalytic Psychotherapy (two existing M.Sc. courses were combined)
- M.Phil. in Children's Literature
- M.Phil. in Digital Humanities and Culture
- M.Phil. in Public History and Cultural Heritage
- Postgraduate Diploma in Clinical Dental Technology
- Postgraduate Diploma in Special Care Dentistry
- Postgraduate Certificate in Innovation and Entrepreneurship

# 2.5 Commencements, Firsts and Gold Medal Awards



Aung San Suu Kyi with the Provost, Dr Patrick Prendergast and Pro-Chancellor, Dr Mary Henry



A total of 4,395 degrees were conferred (2,608 primary degrees and 1,787 higher degrees) in 33 separate Commencement ceremonies in 2011. Three hundred and sixty four students received first class honors at the degree examinations in 2011/12 and, of these, 79 were awarded Gold Medals.

A special honorary degree ceremony on 4 November 2011 marked the conclusion of Trinity's Tercentenary Celebrations of its School of Medicine. Former UK Under Secretary of Health, Lord Darzi, among other leading world medical scientists and doctors, Professors Charles Dinarello, Parveen Kumar, Sir Michael Marmot, Esther M Sternberg and Harriet Wallberg-Henriksson were conferred with honorary degrees.

World renowned scientists were among those conferred with honorary doctorates at a special honorary degree ceremony at Trinity on 29 June 2012 marking the Dublin City of Science 2012 and the Euroscience Open Forum. They were Prof William Campbell, former Director of Parasitology at Merck, Dr John Climax, Clinical Scientist and founder of ICON plc, Prof Peter Doherty, immunologist and Nobel Prize Winner, Prof Sir Roger Penrose, theoretical physicist, mathematician and cosmologist and Kiran Mazumdar-Shaw, an Indian businesswoman and innovator in Bangalore.

Aung San Suu Kyi, one of the most renowned women democrats in the world, was conferred with an honorary degree, a Doctor in Laws, from Trinity College Dublin in June 2012. Despite being under house arrest for 15 years until her release in November 2011, Aung San Suu Kyi has been a tireless campaigner for freedom and democracy in Burma and the world. As one of the world's most prominent political prisoners, she has inspired in people an awareness of the primacy of democratic government.

The nine universities in Ireland, North and South, conferred an honorary Doctorate of Laws on Charles F. "Chuck" Feeney, founder of The Atlantic Philanthropies in September 2012. The degree was conferred to give public honour and thanks to Chuck Feeney for his incredible support of the Irish universities over the past twenty years. It was also conferred to convey to the people of Ireland just how radical and transformative this continued support has been. This is the first time that the universities on the island of Ireland have come together to confer their highest award on an individual.

#### 2.6 Trinity Access Programmes

The Trinity Access Programmes (TAP) are a range of initiatives aimed at increasing the participation rate at third level of young adult and mature students from under-represented socio-economic groups. The programmes were established as part of an overall strategy to address low progression rates to third level by students in particular socio-economic groups and are an illustration of the College's social mission in action.

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 Skills and a number of individual and corporate donors. These funds support the following initiatives:

- The School and Community Outreach Links
- 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
- Research and Evaluation.

There were 184 admissions to Trinity College through the Trinity Access Programmes in 2011/12, an increase of 17% to the previous academic year. Linking with over 40 primary and second-level schools which have little or no tradition of progression to thirdlevel, TAP, with the assistance of some 30 College departments, enabled over 4,000 students, parents and teachers to participate in on-campus activities during 2011/12, such as the Maths and Science Scholars Programme for 6th class pupils, the Med Day for Junior Cycle students, and Summer Schools.

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### **College Activities**

2.7

Provost's Teaching Awards

Dr John Rochford, John Kubiak, Prof Orla Sheils, Prof James Wickham, Dr Daniel Faas and Dr Paul Delaney, Recipients of the 2012 Provost's Teaching Awards

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

Recipients in 2012 were: Dr Daniel Faas, School of Social Sciences & Philosophy who received an Early Career Award, Prof James Wickham, School of Social Sciences & Philosophy and Dr John Rochford, School of Natural Sciences, both of whom received a Lifetime Achievement Award, John Kubiak, School of Social Work & Social Policy, Prof Orla Sheils, School of Medicine and Dr Paul Delaney, School of English. All recipients were recognised for their dedication and commitment to teaching and learning excellence.

### 3. The Student Experience



The 'Trinity Experience' extends beyond the curriculum to a rich tapestry of student clubs and societies that equip students for a life of leadership and civic participation. The tutorial service for students also contributes to the personal ethos.

### 3.1 Student Support Services

At the heart of all the College's activities is the commitment to the intellectual and personal development of all of its students. To enhance the student experience, Student Support Services offer a comprehensive range of administrative and support services including Accommodation and Catering, the Student Health Centre, Counselling Services, the Chaplaincy, Careers Advisory Services, the College Day Nursery and the Sports and Recreation Department. These services ensure that the welfare of students and their social, cultural and emotional development are provided for and managed in a balanced and holistic manner.



#### 3.2 Student Achievements

During the academic year 2011/12, students and student societies were successful in many areas.

Ten Trinity College Dublin students received the Oscar Wilde Gold Medal from President Mary McAleese at the 2011 Undergraduate Awards Ceremony in Dublin Castle, a record number of winners for any third level institution since the inception of the awards programme. One of these students, David Molloy, was a winner in the newly launched International Categories. The Undergraduate Awards of Ireland and Northern Ireland are designed to inspire, support and celebrate the ideas of undergraduate students.

Eight Trinity students were awarded prestigious Fulbright awards, representing the highest number of awards for any Irish institution in June 2012. Fulbright scholarships give Irish and American students, scholars and professionals the opportunity to study, lecture and research at top universities and institutions in Ireland and the US respectively.

Five Trinity students were selected from more than 350 applicants to participate in the Washington Ireland Programme (WIP), a cross-community charity which offers young leaders from Ireland and Northern Ireland the opportunity to live and work in Washington DC while completing leadership training and public service projects.

More than 450 Trinity College students were commended at the annual Dean of Students' Roll of Honour ceremony in April 2012 for their participation in extracurricular, voluntary activity both inside and outside the College. The Roll of Honour aims to recognise the learning outside the classroom which students gain through extra-curricular voluntary activity.

The inaugural Dermot McAleese Teaching Awards were presented to teaching assistants in the School of Social Sciences and Philosophy in recognition of their outstanding contribution in the pursuit of teaching excellence. The recipients from the School's four departments included: Emma Howard of the Economics Department, Richard Hamilton of the Philosophy Department, Justin Leinaweaver of the Political Science Department and Lorraine Mancey of the Sociology Department. This was the first time an award has been presented in Trinity which aims to recognise the work of teaching assistants.



Justin Leinaweaver, Emma Howard, Lorraine Mancey and Richard Hamilton with the Provost, Dr Patrick Prendergast (middle), winners of the Dermot McAleese Teaching Awards

Trinity postgraduate student Eamon Sheehy of the Trinity Centre for Bioengineering was awarded the 2012 Engineers Ireland Biomedical Research Medal for his significant contribution to the field of biomedical engineering research. Eamon's research focuses on using adult stem cells to engineer grafts to replace damaged tissues in joints such as the knee.

School of Natural Sciences PhD student Eileen Diskin received an award at the Falling Walls Lab international conference in Berlin for her presentation on her research into antibiotic resistance. Eileen's research is focused on the link between wildlife and human health, as the built-up resistance in wildlife has the potential to transfer to humans.

School of Biochemistry and Immunology researchers, Lara Dungan and Lisa Mielke, beat off tough competition to win awards at the International Cytokine Society International Conference on 'Cyokines and Interferons: from Bench to Bedside' in Florence, Italy.



Raphael Clancy, School of Law was presented with the Business Lawyer of the Year Award by leading international law firm Maples and Calder in October 2011. The award aims to acknowledge students who excel in the skills and capabilities which are essential for successful business lawyers.

Postgraduate students Annemarie O'Toole, School of Chemistry and Brendan Cannon, School of Business, competed against five other teams from Brazil, Italy, USA, Denmark and Sweden to win the second runnersup award in the Idea to Product Global Competition (I2P).

Catherine Murphy was awarded the top speaker prize at the 2012 European Universities Debating Championships competition. Catherine, who is studying French & History, competed with fellow TCD student Niamh Ní Mhaoileoin who is studying English Literature & Classical Civilisation and was ranked the third best speaker at the competition. The team represented the College's Historical Society in the final, competing against Oxford, Cambridge and Durham, narrowly missing out on the top prize after a split decision by the adjudicators. The teams debated the motion: 'This house believes the State should pay reparations to women'.

Business, Economic and Social Studies student Patrick Lynch was winner of the 2012 Business Student of the Year award for his outstanding contribution to College society life, community engagement and entrepreneurial activities. The competition, open to final year business students, is coordinated by Trinity Business Alumni (TBA) in association with the Business School in Trinity College Dublin and Bank of Ireland.

President Michael D. Higgins opened the inaugural Trinity Economic Forum in February 2012. The forum was entirely run by student volunteers and welcomed 150 students from across Ireland to debate and participate in shaping the future of the Irish economy. The two day event included experts and commentators in economics with participation from the student audience.

Innovation Academy and Bioengineering PhD Student at the Department of Mechanical and Manufacturing Engineering, Stephen Sheridan, was awarded first prize in the annual Entrepreneurship and Technology Venturing Summer School Enterprise 'Pitch' competition at Twente University in the Netherlands. Stephen won the award based on his presentation of his novel business model outlining the creative application of the technology behind his research.

An animated short movie *The Last Train*, which was made as part of the Animation Hub, a collaboration between staff and students of the Irish School of Animation (ISA) at Ballyfermot College of Further Education (BCFE) and Trinity College's Graphics, Vision and Visualisation Group (GV2), and the animation studio Giant Creative formed by BCFE graduates, was nominated for a prestigious Irish Film and Television Academy (IFTA) award in January 2012. IFTA nominations are announced in various categories across film and television and celebrate the highest standard of Irish talent over the previous twelve months.

Trinity students, Natalya Coyle and Mark Kenneally, achieved their ultimate sporting dream when they competed for Team Ireland at the London 2012 Olympic Games. Business Economic and Social Studies student, Natalya Coyle, finished in an impressive ninth place in the Women's Modern Pentathlon ending the Olympic Games on an excellent note for the Irish team on the last day of the games. PhD student, Mark Kenneally, Ireland's sole representative in the Marathon, competed with over 100 other runners, representing over 70 nations. Mark finished in 57th place in a time of 2:21:13.



Natalya Coyle competing in the swim section of the Modern Penthalon at the London 2012 Olympic Games



Sports Scholarships were awarded to 22 students at a special ceremony in November 2011. The scholarships were awarded by the Department of Sport & Recreation and Dublin University Central Athletic Club (DUCAC) in 14 different sports. The Sports Scholarship Programme aims to assist talented students develop their sporting potential and achievement whilst also supporting their pursuit of academic excellence.

Seven student sportsmen and women were awarded with University Colours in 2012. The Trinity Pink, designed to correspond to the Light Blue of Cambridge and the Dark Blue of Oxford, is awarded on individual sporting merit which is generally assessed in terms of outstanding club performance, representative selection or external achievement. Pinks were awarded to Aisling Miller (PhD Dental Microbiology) for Rifle; Kirsty Kelly (JS Natural Science-Microbiology) for Badminton; Peter Linney (SS Mechanical & Manufacturing Engineering) for Climbing; Dominic Gallagher (JS TSM English Literature & Philosophy) for Football (Rugby); and Caoimhe Proud Murphy (MSc Finance); Rachael Nazarin (Law Graduate); Sarah Dolan (SS Mechanical & Manufacturing Engineering); and Caitlin Condon (SS Philosophy, Political Science, Economics & Sociology) for Ladies Rowing.

Notable student sporting club highlights in 2011/12 include: the Boat Club won best overall club at the University Championships at which the Ladies Intermediate 8+ won the National Championships; the Boxing Club won Junior Intervarsities; the Fencing Club won its Intervarsity Competition for the 5th consecutive year; the DU Football (rugby) team won Division 2 of the Ulster Bank League and were promoted to Division 1B; the Gaelic Football Club won the Division 2 League and the Trench Cup and were promoted to the Division 1 League and Sigerson; Judo won Silver at Intervarsity and the Tennis men won their Intervarsity competition; Ruairi Short and Rosalind Hussey competed at the World Orienteering University Championships; the Squash Club organised the first FUNdamentals of Squash with a local primary school; the Waterpolo ladies were promoted to the premier division; and the Volleyball Ladies won at Intervarsities.

### 4. Research Activities

#### 4.1 Research Themes

Trinity's research strategy encompasses all major academic disciplines and is committed to world-class research activities in key areas across science, engineering, social sciences, medicine and the arts. The College's strategic focus is on five key areas – European & International Integration, Culture & Creative Arts, Materials & Intelligent Systems, Biosciences & Translational Research and Transport, Energy & Environment. In each of these areas Trinity has significant research activities, linked nationally and internationally, building on a cornerstone of interdisciplinarity to deliver research of global consequence.

Engaging with TCD on research matters takes place on many levels: the College has significant research partnerships with multinational and indigenous industry; it operates a unique 'researchers in residence' programme to embed partners at the heart of collaborative research projects; with the Science Gallery, Trinity is opening a window to the world of research in its broadest sense, fostering curiosity, stimulating debate and engaging the minds of tomorrow's investigators; through its policy of Creativity in the Community, at local, national and global levels, Trinity is committed to delivering world class research for societal benefit.

### 4.2 Research Funding

Research income has reduced over the past twelve months by approximately  $\leq 2$  million (3%) to  $\leq 65.2$ million from 2010/11 levels. The value of new awards entered into in the year amounted to  $\leq 67.1$  million. While representing a decrease of c. 40% on the prior year value (c.  $\leq 109$ m), when one allows for one-off awards in 2010/11, the real or actual decrease is closer to 8%.

The average contribution to indirect costs from research activity of 18% continues to be below the full economic cost of hosting the research resulting in the core budget cross-subsidising research activity. This position is not sustainable. There were 1,589 active research accounts and research activity supported 1,325 individuals in 2011/12.

Source of Research	Year ended
Income/ Funding	30 Sept 2012
Science Foundation Ireland	42%
Enterprise Ireland	5%
Higher Education Authority	7%
Commission of the European Communities	16%
Others	30%

#### 4.3 Trinity College's New Research Initiatives

Trinity spearheads several major national longitudinal studies, including children's research and ageing, and activities in nanoscience and telecommunications research supported by Science Foundation Ireland centres of excellence on campus. Trinity's major research institutes and centres in areas such as neuroscience, globalisation, immunology, molecular medicine and the Trinity Long Room Hub for the arts and humanities are firmly established among the international leaders in their fields. Trinity is actively involved in significant national collaborative research ventures such as the National Digital Research Centre (NDRC), Molecular Medicine Ireland (MIMI) and the National Institute for Bioprocessing Research and Training (NIBRT).

In addition to Trinity College's ongoing interdisciplinary research initiatives in these areas, the following new projects were among those launched during 2011/12:

# President of Ireland Launches the Centre for Longitudinal Studies in Ireland

The Centre for Longitudinal Studies in Ireland, a joint initiative between the ESRI and Trinity College Dublin, was launched by the President of Ireland, Michael D. Higgins in April 2012. The Centre has been established to promote evidence based evaluation in a range of Irish public policy areas drawing on longitudinal social science data in the hope of getting better answers and solutions to important social and economic questions



and to help Irish researchers develop the conceptual and methodological skills necessary to analyse these important data.

# Government invests €6m in Centre for Learning Innovation

The Minister for Jobs, Enterprise and Innovation, Richard Bruton TD and the Minister for Research and Innovation, Seán Sherlock TD jointly announced the investment of €6 million over six years in the Centre for Learning Innovation which will benefit Irish businesses across both the technology and education sectors. Hosted in Trinity, the Technology Centre will be funded by the Government through Enterprise Ireland which operates the Technology Centres Programme in partnership with IDA Ireland.

#### Centre for Practice and Healthcare Innovation

Launched in May 2012, the Centre for Practice and Healthcare Innovation brings together clinical practice staff in nursing and midwifery aligned with academic strengths in a partnership that aims to provide improved models of service delivery and practice for the benefit of all patients, service users and society. As part of the initiative, it also aims to develop a national network of Practice Innovation Units that will work together sharing resources and developing research in nursing, midwifery and healthcare.

#### New Arts Education Research Group

An Arts Education Research Group, based in the School of Education was launched in June 2012 by the Minister for Arts, Heritage and the Gaeltacht. The Group provides an important focal point for research in the area of the Arts in Education in wider society by bringing together collaborators who work in the areas of drama and theatre, music, dance, the visual arts, and poetry and supports valuable networking opportunities between diverse organisations and institutions involved in arts education.

#### 4.4 Research Links with Other Institutions

Among the research links with other institutions formed during the 2011/12 academic year were:

#### Trinity Collaborates on New Alliance to Deliver Major Healthcare Advances

Four world-class institutions from Wales and Ireland launched a new alliance to lead the way in developing cutting-edge healthcare in March 2012. The €1 million Celtic Alliance for NanoHealth (CAN) is funded via the European Regional Development Fund under the Ireland Wales Cross Border programme and will pool resources from the lead partner, Swansea University's Centre for NanoHealth, and three Irish institutions – Trinity's Institute of Molecular Medicine and Centre for Adaptive Nanostructures and Nanodevices (CRANN), UCD's Centre for BioNano Interactions, and DCU's Biomedical Diagnostics Institute and Nanobiophotonics and Imaging Centre. Each centre brings to the alliance specific areas of expertise in nanohealth.

### Max Planck Digital Library Collaborates with Trinity on Digital Humanities Research Project

A new academic collaboration between the CENDARI project, coordinated through the Trinity Long Room Hub, and the Max Planck Digital Library in Munich, was established in June 2012. CENDARI is a Seventh EU Framework Programmed (FP-7) funded project in Digital Humanities aimed at facilitating access to archives and resources in Europe for the study of medieval and modern history through the creation of a digital 'enguiry environment'.

# TCD-led Consortium to Research Nutrition and HIV in Uganda

A Trinity-led research collaboration received an award of just over €1 million for a project, NOURISH, to investigate nutrition and HIV treatment outcomes through the development of a Ugandan/Irish research collaboration. It aims to understand factors that affect the sustainability of treatment responses to HIV. The award was made to the Trinity-led project under the Programme of Strategic Cooperation between Irish Aid and Higher Education and Research Institutes, Round 3.



NOURISH will create a HIV/Nutrition research cluster of academics, clinicians and policy contributors from Ireland and Uganda. The cluster will be led by Trinity with key partners Makerere University, Uganda and the Infectious Diseases Institute at MU, Gulu University and the Joint Clinical Research Centre, and supporting partners University College Dublin and King's College London.

The Stanford Center for Design Research and School of Engineering Commence Collaboration The Center for Design Research at Stanford University and Trinity's School of Engineering commenced work on a link between the two universities on research led teaching on creative design in October 2011. Trinity Engineering will become a global partner in the industry sponsored master's course 'Global Project-Based Engineering Design, Innovation, and Development' at Stanford University in 2013 along with other leading universities across the world.

# ICT Project to help Older People and those with Neurological Disorders

An international project, named 'VERVE', coordinated by Trinity which includes collaborative partners in healthcare and academia in France, UK, Italy, Spain and Germany started in October 2011. Aiming to improve the quality of life for disadvantaged groups including older people and those with neurological disorders, the project was awarded €4.8 million by the European Commission Seventh Framework Programme.

The VERVE consortium will apply leading edge research to simulate personalised and populated virtual reality (VR) environments, 3D web graphics, and 'serious' games as a means of addressing some of the challenges faced by the target groups.

#### Links Fostered with Top Chinese University

In April 2012 Trinity College and Beihang University, one of China's top universities, signed a strategic partnership. The agreement will see Trinity College Dublin work closely with Beihang in the fields of nanotechnology, chemistry and physics and will facilitate the exchange of researchers and students between the two institutions.

#### 4.5 Scholarship and Award Success

Trinity staff members continued to excel in research achievements and received national and international distinction. Awards received by Trinity researchers include:

The Royal Irish Academy (RIA) enrolled three Trinity College academics as new members in 2012: Prof John Pethica, Principal Investigator and founder director of CRANN and SFI Research Professor in the School of Physics, Prof Richard Reilly, Professor of Neural Engineering and Director of the Trinity Centre for Bioengineering and Dr Daniel McCarthy, Fellow Emeritus and former Senior Lecturer in the Department of Computer Science. Election to the RIA is the highest academic honour in Ireland and is a public recognition of academic achievement.



Prof Richard Reilly and Dr Daniel McCarthy, two of the three new Trinity RIA members with Prof Luke Drury, President of the RIA (centre)

An international project facilitating cutting-edge archival research in medieval and modern European history was awarded €6.5 million by the European Commission Seventh Framework Programme in June 2012. The project, CENDARI (Collaborative EuropeaN Digital ARchive Infrastructure), is coordinated by Trinity and includes collaborative partners in archives, libraries and universities in the UK, France, Germany, Italy, Czech Republic, Serbia and Netherlands. The four-year project will provide a unique research platform for accessing and investigating historical data across national and institutional boundaries.



Seven Trinity flagship scientific research projects were awarded funding through Science Foundation Ireland's Principal Investigator Programme in June 2012. The successful research projects were led by Prof Jonathan Coleman, School of Physics and CRANN; Dr Hongzhou Zhang, School of Physics and CRANN; Prof Andrew Bowie, School of Biochemistry and Immunology; Profs Pete Humphries and Jane Farrar, School of Genetics; Prof Marina Lynch, School of Medicine and TCIN; Prof Kingston Mills, School of Biochemistry and Immunology; and Dr James O'Donnell, School of Medicine. Trinity secured seven out of 30 awards.

Dr Silvia Giordani, research lecturer in Chemistry was awarded one of four prestigious 2012 L'Oréal-UNESCO UK & Ireland For Women in Science Fellowships (FWIS) for her research on a new avenue towards 'smart' medicines in July 2012. The fellowships promote the importance of ensuring greater participation of women in science by offering awards to outstanding female postdoctoral researchers. The awards are run in partnership with the UK National Commission for UNESCO, the Irish National Commission for UNESCO and the Royal Society.



Dr Silvia Giordani who was awarded a 2012 L'Oréal-UNESCO UK & Ireland For Women in Science Fellowship Professor of Immunology, Andrew Bowie, School of Biochemistry and Immunology was awarded a National Institutes of Health (NIH) grant along with coinvestigator Dr Katherine Fitzgerald to support their research on 'DNA sensors and associated signaling pathways in the innate immune response' in March 2012. The research project, which will receive a total of \$1.25 million over five years, was ranked in the top 1% of grants submitted to the National Institute of Allergy and Infectious Diseases (NIAID) and was based on work previously funded by Science Foundation Ireland.

A €2.5 million grant was awarded to Professor of Population Genetics, Dan Bradley of the School of Genetics and Microbiology to enable him to continue his research into ancient DNA of domestic animals from archaeological samples. The prestigious European Research Council (ERC) Advanced Grant was awarded for a period of five years.

Dr Carola Schulzke, School of Chemistry and Dr Clionadh Raleigh, Department of Geography in the School of Natural Sciences were each awarded prestigious European Research Council (ERC) Starting Grants. Dr Raleigh's  $\in$ 1.4 million grant was awarded to enable her to continue her research on the causes of the various types of political violence found within and across African states. Dr Schulzke beat off competition from 4,080 applicants to secure a grant worth up to  $\in$ 2m. Her research focuses on two rare but fatal paediatric diseases, Moco-deficiency (MocoD) and human isolated sulfite-oxidase-deficiency (hiSOD), which are caused by a failure at different levels of the natural development of a certain group of enzymes.

Research conducted in the School of Engineering in a collaborative project called EcoNav which will develop a real-time emissions and transport information tool to encourage sustainable travel patterns was awarded €2.35 million by the European Commission Seventh Framework Programme. Trinity's Dr Brian Caulfield is leading the research and the university's research team will develop the real-time emissions model and manage field trials in Dublin, Vienna and the Netherlands.



An international research project including Trinity scientists was granted €3 million under the EU FP7 programme to collaborate with Brazil in the fight against inflammatory disorders. Scientists from nine research institutions and universities in Europe, and three in Brazil, will collaborate in this new programme 'Targeting novel mechanisms of resolution in inflammation (TIMER)'. Professor of Biochemistry, Luke O'Neill of the School of Biochemistry and Immunology will study the effects of plant-derived anti-inflammatory agents collected from the Amazon rain forest on innate immune processes important for such diseases as Type 2 diabetes and rheumatoid arthritis.

Prof Orla Hardiman, TCD Clinical Professor of Neurology, HRB Clinical Scientist and Consultant Neurologist at Beaumont Hospital was awarded the 2011 Forbes Norris Award. The award recognises people who have shown exceptional care and compassion in the study and management of Motor Neurone Disease.

Dr Eleanor Denny, Assistant Professor of Economics was the inaugural recipient of the European Award for Excellence in Teaching in the Social Sciences and Humanities, presented by the Central European University. This honour is the first and only pan-European award for excellence in teaching.

Lecturer in Paediatric Nursing, Dr Honor Nicholl of the School of Nursing and Midwifery was named international 'Educator of the Year' in recognition of her work in children's palliative care education. The award, organised by the International Journal of Palliative Nursing (IJPN) and Macmillan Cancer Support, celebrates achievement and excellence in all aspects of palliative care internationally.

Professor of Geriatric Medicine, Des O'Neill was awarded the Irish Heart Foundation Boehringer Ingelheim Stroke Champion Award in recognition of his work as a pioneer in promoting better services for people with stroke in Ireland for the past two decades.

Prof Jonathan Coleman, a SFI-funded researcher from CRANN and School of Physics, who has achieved international success in the area of nanostructures, was announced as the 'Science Foundation Ireland Researcher of the Year' in November 2011.



Science Foundation Ireland Researcher of the Year, Prof Jonathan Coleman

Prof John Boland, Director of CRANN and Professor of Chemistry, was presented with a top international award for his contributions to the field of nanoscience and nanotechnology. Prof Boland was named Laureate of the 2011 ACSIN Nanoscience Prize for his outstanding work in the development and application of scanning probe microscopy and spectroscopy and in the use of these tools to advance our understanding of chemical and physical phenomena of materials.

The second wave of the Intellectual Supplement Disability to The Irish Longitudinal Study on Ageing (IDS-TILDA) was awarded funding of €300,000 from the Health Research Board and renewed funding from the Department of Health and Children. The study is the first of its kind in Europe and is also uniquely inclusive, from inception to dissemination.

'The Hive', an image taken in Trinity's nanoscience institute, CRANN, of a porous surface of the polymer polylactic-co-glycolic acid (PLGA) was named by Science Foundation Ireland as the Research Image of the Year for 2011. The winning image was taken by Dr David McGovern under supervision of Prof John Boland, Principal Investigator at Trinity's School of Chemistry





'The Hive', SFI's Research Image of the Year

Dr Gerard Lacey, Co-founder, Director and Chief Technical Officer of Glanta Ltd., a Trinity spinout company, won the 2011 Enterprise Ireland ICT Commercialisation Award at the Big Ideas Technology Showcase.

The inventors of a new, energy efficient, air-filtration technology received an Enterprise Ireland Commercialisation Award. The recipients, Dr Aonghus McNabola, Dr Laurence Gill and Dr Niall O'Luanaigh of the School of Engineering were presented with the award for successfully bringing this novel technology to the marketplace. They did this through the formation of a new company called AERIAQ Filtration Ltd which has licensed the technology.

The Trinity Campus company Xcelerit won the Partnership for Advanced Computing in Europe Award (PRACE) for 'Most Innovative High-Performance Computing Application in Europe' in May 2012. The new software spin-out from the SFI-funded CTVR telecommunications research centre based in Trinity, specialises in cross platform acceleration tools for financial services, engineering and scientific research. Authentik Language Interactive, a Trinity campus company, was awarded a European Language Label award in recognition of the creative and innovative approach to learning it offers European language learners. The awards recognise those companies who have found creative ways to improve the quality of language teaching and learning and are presented on the basis of excellence, creativity and the project's ability to serve as a model for others.

Trinity's Old Library was one of three institutions that received full accreditation under the Museum Standards Programme in 2012 and joins a select group of only 15 museums that have achieved full accreditation to date. The award was presented by the Minister for Arts, Heritage and Gaeltacht Affairs, Jimmy Deenihan.



Anne-Marie Diffley, Visitor Services Manager, Old Library, Darina Kneafsey, Chief Operating Officer, Minister Jimmy Deenihan, Jessie Kurtz, Deputy Librarian and Susie Bioletti, Keeper, Conservation, Old Library



### 5. Innovation and Commercialisation

Trinity Research & Innovation (TR&I) promotes and manages the interface between TCD researchers, funding agencies and industry, through four divisions: Research Development, Contracts, Technology Transfer and Entrepreneurship.

In line with the National Development Plan and the College's Strategic Plan, TR&I seeks to promote the successful exploitation of new ideas incorporating innovative technologies. TR&I provides supports all along the research continuum, from submission of funding applications, to contract negotiation, intellectual property management, technology transfer, commercial exploitation, and entrepreneurship training. TR&I fosters and supports College's interactions with industry, including establishing research collaborations and licensing Trinity's intellectual property. In addition, it facilitates and approves the formation of TCD campus companies.

#### 5.1 Research Funding

During the 2011/12 academic year, 1,200 research funding applications were supported by the Research Development Office. In the same period, the Contracts Office signed 546 new research contracts with a total value of  $\in$  81,990,753, and TCD awarded 159 contracts (worth  $\in$  35,034,285) to external entities.

#### 5.2 Intellectual Property

The Technology Transfer Office received 49 disclosures of novel intellectual property created by Trinity researchers, filed 34 new patent applications, granted 16 commercialisation licences and approved six new TCD Campus Companies.

#### 5.3 Entrepreneurship and Innovation

The Entrepreneurship Section delivered a structured Entrepreneurship Programme to postgraduate students and researchers from 14 different Schools, and provided support, advice and mentoring to 50 students and Trinity graduates with innovative new company projects.





### 6. Human Resources

Trinity's Human Resources function supports the College in achieving its strategic goals through the recruitment, retention and development of excellent people. To ensure the efficient delivery of these services Human Resources is structured into four main areas, namely Recruitment, Staff Planning and Payroll, Staff Relations and Staff Development.

#### 6.1 College Staff

Activity in the Recruitment and Contracts Section was higher than in previous years, with the number of posts advertised rising, despite employment control restrictions. Recruitment requirements arise from research and non-exchequer funds; the backfilling of established personnel availing of unpaid and special leave; 13 second round Ussher new blood posts and the implementation of College strategies such as the Global Relations Strategy, and eStrategy – GeneSIS and FIS posts, and consequential backfills. In addition the recruitment activity in relation to replacement posts has grown as employment control restrictions give rise to an increase in posts offered on a fixed term basis.

It should be noted that this general recruitment activity occurred against the background of (a) each approval being considered in the context of the general provisions of the Employment Control Framework (ECF) in relation to essential posts, and (b) the College achieving its ECF required reductions in core exchequer funded staffing levels, as reported to the HEA on a quarterly basis.

Following the easing of promotions restrictions in the 2011 ECF, the College recommenced promotions activity, with all Promotions and Review Committees resuming their activity in line with the permitted framework.

### 6.2 Chair Appointments

During the academic year 2011/12, ten recruitment and selection processes were undertaken for Professor positions within the College.

Six competitions commenced with the School of Medicine, with one competition successfully completed during 2011/12, and the candidate commenced in June 2012 in the joint post between the School of Medicine (Palliative Medicine), Our Lady's Hospice Limited and University College Dublin. This position is the last of the academic consultant professor appointments (Chairs) arising from the recommendations of the Fottrell Report. Competitions are continuing into the new academic year 2012/13 with the Disciplines of Psychiatry, Obstetrics and Gynaecology, Rheumatology (funded by Arthritis Ireland), Paediatrics and Clinical Medicine.

Two Professor competitions were held for the Faculty of Arts, Humanities and Social Sciences, with the successful candidate for the McCann FitzGerald Chair in Corporate Law commencing in post in August 2012. The College was not successful in filling the Thomas Mitchell Chair in Cognitive Neuroscience, nor the Childhood Research/Director of the Childhood Research Centre. The latter position will be re-advertised in the new academic year.

In the Faculty of Engineering, Mathematics and Science, the ERC Research Professor was interviewed and appointed, taking up the post in January 2012. The search for the CRANN Director will continue into the new academic year.



### 7. New College Initiatives and Key Events

There were several new initiatives and key events in the College during the academic year 2011/12.

The College's Global Relations Strategy was launched by the Tánaiste and Minister for Foreign Affairs and Trade, Eamon Gilmore in September 2012. It aims to build on Trinity's strong international reputation for research, teaching and innovation in its mission to be a university of global consequence.

The strategy addresses five headline actions that will further develop global relationships in research and education: increase the recruitment of international students by doubling the number of non-EU students; improve the educational experience by embedding internationalisation in the educational culture of the University; further develop global relationships with other world leading institutions; build on alumni networks and increase philanthropic income. The successful implementation of the Global Relations Strategy, which supports 'Ireland's International Education Strategy 2010-15', will be critical in positioning Ireland as a leading centre of international education.

One of the landmark events of 20th century science was celebrated and reinterpreted for the 21st century in Trinity College Dublin as part of the Dublin City of Science and the European Science Forum, ESOF2012. Dr Craig Venter, one of the leaders of the Human Genome Project in the 1990s and a pioneer of synthetic biology delivered a lecture entitled, 'What is Life? A 21st century perspective' recreating the Irish event that inspired the discovery of the structure of DNA. Prof Luke O'Neill, Academic Director of the Trinity Biomedical Sciences Institute and Professor of Biochemistry at the School of Biochemistry and Immunology chaired the lecture. The Taoiseach, Enda Kenny, TD attended the event in the Public Theatre which had a full capacity. Nobel Laureate Dr James Watson responded at the end of the lecture. This unique event connected an important episode in Ireland's scientific heritage with the frontier of contemporary research.

Science Gallery at Trinity College Dublin was awarded a prestigious gift of €1 million from Google.org to develop a Global Science Gallery Network (GSGN). Since opening in Dublin in February 2008, Science Gallery has welcomed over 800,000 visitors to 18 multidisciplinary exhibitions, ranging in theme from contagion to the future of fashion. GSGN will be modelled on this successful approach to engaging young people in Science, Technology, Engineering and Maths (STEM).

The Tercentenary of one of Trinity and Ireland's iconic buildings, the Old Library was celebrated in 2012. The Tercentenary was marked by a series of events, including the Exhibition 'A great many choice books: 300 years of the Old Library' on the history of the Old Library and its collections opened by the President of Ireland, Michael D. Higgins, a library conference 'Building Collections', the publication of a book on the Library and its collections, celebrity readings from the Library's collection of children's books and other events celebrating the role of the building in Dublin.

The 10 millionth visitor to the Old Library since the creation of its visitor centre in 1992 was welcomed in August 2012 by the Librarian, Mr Robin Adams. The Old Library and Book of Kells is one of Ireland's major tourist venues and attracts over 520,000 visitors each year to see the exhibition on the Book of Kells and other medieval manuscripts and to enjoy the spectacular space of the Long Room.

A special event celebrating the participation of students, past and present in the Olympic Games over the last 100 years and to honour current students participating in the London 2012 Olympic Torch Relay took place in June 2012 in the College. A total of 45 Trinity graduates have taken part in the Olympic Games since 1908. Three Trinity students, Áine Ní Choisdealbha, Natalya Coyle and Mark Kenneally and one graduate, Mark Pollock carried the Olympic Flame through the streets of Dublin as part of the London 2012 Olympic Torch Relay.





Olympic Flame Torch bearers, students Mark Kenneally, Áine Ní Choisdealbha and Natalya Coyle and graduate, Mark Pollock

Trinity College Dublin historians have reconstructed invaluable medieval documents destroyed during the bombardment of the Four Courts in 1922. The Four Courts was the home of the Public Record Office, which was catastrophically destroyed when it was bombed in the conflict between pro-Treaty and anti-Treaty forces at the start of the Irish Civil War. It was previously thought that the entire medieval archive had been destroyed, but forty years' work by a team of researchers at Trinity has led to the reconstruction of more than 20,000 hugely important government documents produced by the medieval chancery of Ireland. The Irish chancery letters are now available again in a new publicly accessible and free internet resource known as CIRCLE: A Calendar of Irish Chancery Letters, c.1244–1509.

An inaugural concert launching Trinity's Music Composition Centre took place in January 2012. The Music Composition Centre is the latest exciting development in Trinity's Creative Arts, Technologies and Culture initiative. Music Composition is one of six flagship areas of creative practice for which Trinity is renowned along with the Visual Arts; Creative Writing and Literary Translation; the Creative Technologies; Cultural Heritage; and Dramatic Arts. The new Music Composition Centre joins Trinity's recently launched The Lir - The National Academy for Dramatic Art and other well established centres such as the Oscar Wilde Centre for Creative Writing.





Cheerleaders at the Pep Rally in Front Square

A support service website for students with Asperger's Syndrome featuring videos of students discussing their experiences of university life with Asperger's Syndrome and also Trinity College Dublin's first i-book entitled the 'The A-Z of AS' by the late Dr Zehanne Kenny was launched by the Minister for Health, Dr James Reilly. Like other third level institutions Trinity has seen a rise in the number of students accessing the university with disabilities. In particular one of the greatest increases in student numbers attending university are those individuals with Asperger's Syndrome. Trinity now has the highest number of students with Asperger's Syndrome studying in Ireland.

Over 2,000 people participating in a colourful Pep Rally for the Global Ireland Football Tournament (GIFT) gathered in Front Square in August 2012. The GIFT tournament was organised to bring 12 Championship high school and college American football teams to Ireland to take part in a series of American football matches at the time of the 2012 Emerald Isle Classic (Notre Dame v Navy Football). The crowd, consisting of the college football teams, marching bands, cheerleaders, their supporters and families, was welcomed to Trinity by the Dean of Undergraduate Studies, Dr Patrick Geoghegan. The Bollywood film, Ek Tha Tiger, shot on location at Trinity College Dublin was launched in India and Dublin in August 2012. The first ever Bollywood blockbuster to be made in Ireland, featuring two of Bollywood's biggest stars, Katrina Kaif and Salman Khan, had special screening events across India – Mumbai, Bangalore, Chennai, Kolkata, Dehli – as well as Dublin. It went on general release in 3,000 cinemas in India and in 24 countries worldwide with an expected global audience of 100 million.

The College received an A+ grading in the Irish Business Against Litter (IBAL) survey report Litter on Campus. The study of third level institutions was carried out by An Taisce, and accounted for up to 300,000 students and staff. Trinity's A+ grade meant the campus was 'Exceptionally Clean & Well Presented'.

Trinity was joint winner of the 2011 JICS TechDis OASES Award for Institutional Progress on Equality using Technology. The award, which is open to all universities, colleges and other learning providers, recognises the numerous strategies currently in place at Trinity that work to enhance accessibility and inclusion within the academic environment. These strategies ensure equality of access to teaching and learning for all students.



#### 8. **Capital Development** Programme

#### 8.1 **Completed Projects**

#### New State-of-the-Art School of Medicine

Trinity College Dublin's new premises for its School of Medicine were officially opened by the Minister for Research and Innovation, Seán Sherlock in February 2012. Funding of just over €21 million was provided by the Higher Education Authority and the Department of Education and Skills for the new building situated in the Trinity Biomedical Sciences Institute. The world standard teaching equipment includes teaching laboratories with the latest technologies, 300-seat lecture theatres, seminar rooms and a specially designed Anatomy Dissection Room with extensive audio video equipment facilities to enhance the learning experience. All pre-clinical medical education and training activities are now situated in the one building for the first time in the School of Medicine's history. The School also benefits from the collaborative nature of the Trinity Biomedical Sciences Institute, bringing together research activities across five schools to drive cutting edge 21st century biomedical research.

#### The Lir, National Academy of Dramatic Art

The Lir, National Academy of Dramatic Art at Trinity College Dublin, was officially opened in October 2011. Developed in collaboration with the Cathal Ryan Trust in association with the Royal Academy of Dramatic Art (RADA) The Lir accepted its first intake of students during the academic year. The Lir is housed in a purpose-built facility situated beside Grand Canal Dock and close to the exciting new cultural quarter of Dublin around the Grand Canal Theatre. The development involved the conversion of former industrial units at the Trinity Enterprise and Technology campus located on Pearse Street and includes facilities such as a fully flexible black box studio, a technical workshop, a dance studio, rehearsal, practice and teaching rooms, a wardrobe/workshop, a café/bar and Box Office.

#### Front Square Accessible Pathways

A project to provide accessible pathways across the cobbled areas through the main Front Square was completed in early 2012. These pathways provide accessible routes from the main College Green



The Lir, National Academy of Dramatic Art at Trinity College Dublin

entrance to all buildings in the historic west end of the College as well as through the Regent House archway to the College Green gate, and into Fellows Square. They greatly enhance the College's accessibility and are of major benefit to students, staff and visitors to the College with impaired mobility. The project was funded from the Disability Services Capital Allocation. It is planned to extend these routes into adjoining areas in the coming year.

#### Other projects

Other capital projects undertaken during the academic year include the installation of a Data Centre, a new energy efficient high density data centre for Information Systems Services, and the completion of purpose designed accommodation for the College Art Stores. Among the significant maintenance projects were the Museum Building stone cleaning and restoration project; the Berkeley Podium waterproofing; and the restoration and repair of the facades of 34 Westland Row and 36 Fenian Street.



### 8.2 Construction Projects

Wellcome Trust-HRB Clinical Research Facility A tripartite agreement between TCD, Wellcome Trust and St James's Hospital in 2009 allows for the construction of the Clinical Research Facility at St James's Hospital. The tender process was completed and work on site started in December 2011. Completion is scheduled for December 2012. The ten bed facility will be some 1,300 sq.m. and will include special clinical research areas for exercise physiology, neurophysiology and gene and molecular therapies. It will be adjacent to the HRB funded three Tesla MRI (Centre for Advanced Medical Imaging) and the TCD Institute of Cardiovascular Sciences, which is being funded by the Baggot Street Trust. The facility will come into service during 2013.

#### Trinity Centre Tallaght Hospital, Phase 2

The College continues to work on planning and fundraising to support the provision of an Institute of Population Health associated with the Trinity Centre at AMNCH Tallaght. Proposals to buy and fit out three floors of a building to accommodate the Institute are at an advanced stage.

#### Additional Student Residences

Trinity College has identified an initial requirement of 1,000 student residential units with potential demand for a further 2,500 units that will enable it to increase the level of residential accommodation for Irish and international students. A procurement process is well advanced and it is hoped that a contract will be awarded in 2013.

#### Pearse Street Development

The College's plan for the redevelopment of its Pearse Street property is for a phased development of new buildings on the north side of the College sports grounds and the 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 timing of this development is predicated on the availability of finance and the prioritisation of the College strategic capital developments.

#### 8.3 Energy Conservation

Trinity consumed 38.7 million kWh of electricity and 45.5 million kWh of natural gas and oil during 2011/12. Consumption grows year on year as a consequence of the occupancy of the new buildings. As part of the College's commitment to energy conservation, the new Trinity Biomedical Sciences Institute incorporates several features designed to reduce energy consumption, including energy efficient lighting with presence detection, an energy efficient fume cupboard exhaust system and trigeneration plant to meet some of the heating, cooling and electrical load of the building. In addition, the new energy efficient high density Data Centre for Information Systems Services will yield significant savings to the College.

Continuing work on refurbishments and energy reduction projects were implemented to improve and reduce energy consumption. The energy reduction programme, supported by the Sustainable Energy Authority of Ireland (SEAI) set up a monitoring and targeting (M&T) system for selected buildings and then worked to reduce energy consumption within them. The project has been extended to cover over 75% of College energy consumption. Trinity's objectives are to maintain energy savings already made and to continue working to reduce the energy consumption of its buildings while planning to maximise energy conservation in any proposed new buildings.

Trinity College continues to work with its colleagues in the e3 group, comprising UCD, DCU and DIT, and additionally with the National Energy Procurement Service using collective purchasing power to procure the most advantageous electricity and gas tenders from suppliers. Trinity continues to source a large proportion of its electricity from renewable wind generated electricity suppliers. This approach, coupled with the measures outlined above is an effective way to substantially reduce CO2 emissions.



### 9. Fundraising

Significant funding is required if the College is to confirm its position as one of the world's leading universities. Now more than ever, it is clear that if the College wishes to represent Ireland globally, it cannot rely on State funding alone - securing private support is becoming ever more essential to Trinity's future.

To this end, Trinity Foundation raises funds from the College's alumni and friends. In the period 1 October 2011 to 30 September 2012,  $\in$  22.5 million was secured in private donations ( $\in$  15.1 million in 2010/11). The benefits of this private support can be seen throughout the College.

Thanks are due to the many donors who have contributed through the Annual Appeal, by leaving a legacy of providing direct support to one of Trinity's strategic priorities which include:

- Ageing
- Cancer
- Culture & Creative Technologies
- Nano-science and advanced materials
- A new home for Engineering and Natural Sciences
- Refurbishment of the Library with expanded Humanities research facilities
- Building an Innovation Campus incorporating a New Business School
- Science Gallery
- Trinity Access Programmes and bursaries for students.

Central to the College's fundraising success is the outstanding contribution of the many volunteer groups that support Trinity including the TCD Association and Trust, the Business School's Advisory Board, the Engineering Advisory Board, the External Advisory Board of the Trinity Long Room Hub, the Medical School's Tercentenary Board, the Trinity Business Alumni, the Science Gallery Governing Board, Classics Advisory Board, National Institute for Intellectual Disability Management Committee, South Asia Initiative Advisory Board, the USA Fund and the UK Trust. These volunteers give their time, strategic input and considerable financial support for which the College is extremely grateful. Special mention is due to the Board of Trinity Foundation, which plays a key role in co-ordinating the College's philanthropic strategy.



### 10. Financial Position

The Funding Statements for the year ended 30 September 2012, as prepared on the agreed harmonised basis for the Irish University sector, were approved by the Board on 23 January 2013. The Funding Statements represent Part I of the financial reporting requirements of the Universities Act and reflect the core teaching/unfunded research along with research grants and contracts activity recorded in the Income & Expenditure Account. The College's external auditors KPMG identified no material control weaknesses and issued an unqualified audit opinion on the Funding Statements. The Consolidated Financial Statements, which represent Part II of the financial reporting requirements and prepared in accordance with generally accepted accounting standards, are expected to be finalised in 2013.

The College reported a net surplus on core funded activity of €0.1m (2010/11: €0.1m) for the year-ended 30 September 2012 however this was only achieved after a planned transfer of resources previously retained for strategic purposes. Total Income (excluding research) for the year amounted to €201m (2010/11 €199m) and was made up of State Grant €64.7m (2010/11: €71.2m); Student Fees €102.8m (2010/11: €99.5m) and Other Income €33.2m (2010/11: €28.7m). Total Expenditure (excluding research) amounted to €201m (2010/11 €199m) and was primarily made up of Academic Faculties €114.3m (2010/11: €113.2m); Academic and Other Services €18.9m (2010/11: €20.7m) and Premises €27.4m (2010/11: €25.4m). The scenario of the College operating at a level where recurrent expenditure exceeds recurrent income is clearly not sustainable, particularly when the projected growth in demand for higher education is taken into account. In addition, there continues to be a real risk that given the considerable reductions in core activity expenditure since 2008 (to address the reductions in State funding primarily) the College now has limited capacity to reduce expenditure further as the majority of costs are fixed in nature and, furthermore, future pay costs are determined externally by way of national and local agreements.

Research activity reduced over the past year by approximately  $\in 2m$  (3%) compared to 2010/11 levels, with new awards entered into valued at  $\in 67.1m$ . While representing a decrease of c.40% on the prior year value, the decrease is c.8% when one allows for significant one-off awards in 2010/11. The outlook for research funding remains unclear in light of the pressures on the public purse and the impact this will have on the annual budgets of national funding agencies along with the uncertainty surrounding the EU Horizon 2020 Budget. This, coupled with a State funding structure that inhibits multi-annual budgeting will present a challenge to the College in determining medium to long term projections of research activity.

The total net assets of the College reduced during the year by  $\in$ 8.1m to  $\in$ 696.5m at 30 September 2012 primarily due to the fall in the value of investment properties that are based on revised independent valuations and take account of the current economic climate.

While the College continues to be extremely diligent and proactive in the manner in which it manages its finances, more financial headwinds lie ahead in the form of further reductions in Exchequer funding, the Government's refusal to re-introduce tuition fees and the constraints of working within National Pay Agreements. It is to College's credit however that it has made decisions to pursue opportunities to be more efficient and effective without fundamentally compromising on its ability to fulfil its teaching and research mission and is fully committed to managing its finances proactively into the future with a wider emphasis than just cost constraint and efficiency. In this regard, the College has, during the year, approved key strategies that will drive and support the generation of non-Exchequer income into the future and it is anticipated that by 2015/16 the College will generate a level of recurrent revenue from non-State sources that exceeds 50% of operating budget.



Despite the continuing budgetary pressures, the last number of years has been marked with an abundance of accomplishments. In that time, the College has managed its finances with a firm commitment to both its current and long-term health. The appropriate stewardship of the College's resources at this time is essential to its long term success and financial health and it will be virtually impossible to compete on the international stage in the medium/long term without sustainable funding, a fit for purpose remuneration framework and operational flexibility that mirrors those experienced by our peer institutions. Our objective over the next few years must therefore be to continue to focus and deliver on our academic mission and vision, making investments where appropriate whilst operating in a financially responsible and sustainable manner and continuing to seek alternative income streams.



### Appendix I

#### Attendance at Board meetings 2011-2012

The total number of meetings held during the year was 13.

*Ex Officio members:* 

Provost (Dr Patrick Prendergast) (13), Vice-Provost/CAO (Professor Linda Hogan)<sup>1</sup> (12), Senior Lecturer (Professor Patrick Geoghegan)<sup>1</sup> (12), Registrar (Professor Shane Allwright)<sup>1</sup> (12), Bursar (Professor David Lloyd)<sup>1</sup> (12).

1 Eligible to attend 12 meetings on election as a College Officer at the first meeting in September 2011

Elected members:

Professor Shane Allwright<sup>1</sup> (1), Professor Sean Barrett (12), Professor Melanie Bouroche (11), Professor Mary Coffey (10), Mr Fred Cowzer (13), Professor Liam Dowling (12), Professor Hugh Gibbons (11), Professor Robbie Gilligan (11), Professor John McGilp (13), Dr Jack McGinley (12), Professor Nicola Marples (12), Ms Noreen Murray (12), Professor Cliona O'Farrelly<sup>2</sup> (8), Professor Eunan O'Halpin (11), Professor Des O'Neill (8), Professor Henry Rice (12), Professor David Singleton (8).

*External members:* Dr Olive Braiden (11), Mr Jackie Gallagher (12).

Student members: Mr Ryan Bartlett (13), Ms Rachel Barry (10), Ms Louise Miller (11), Ms Mary O'Connor (11).

1 Was appointed as Registrar in September and was eligible to attend one meeting as a representative of the Fellows and Fellow Professors 2 Was elected to fill the vacancy arising from Professor Allwright's appointment as Registrar, and was eligible to attend 10 meetings

### Appendix II

#### Board Expenses 2011-12

In 2011-2012 the following was paid to Board members (the financial year begins on 1 October):

Prof Des O'Neill: €123.40 (€39.80 of this was incurred in 2010-11)



## Appendix III

### Income and Expenditure Account Year ended 30 September 2012

	2012	2011
	€′000	€′000
Income		
State Grants	64,696	71,243
Student Fees	102,788	99,445
Other Income	33,224	28,700
	200,708	199,388
Research Grants and Projects	65,170	67,342
Total	265,878	266,730
Expenditure		
Academic Faculties	114,258	113,154
Academic and Other Services	18,949	20,688
Premises	27,369	25,367
Amount Allocated for Capital Purposes	500	735
Central Administration and Services	14,565	14,888
General Educational Expenditure	9,844	9,141
Student Services	5,167	5,352
Miscellaneous Expenditure	9,923	9,959
Academic and Related Services	200,575	199,284
Research Grants and Projects	65,170	67,342
Total	265,745	266,626
Surplus on Activities before Amortisation of Capital Reserves	133	104
and Grants, Ancillary Services and Depreciation of Fixed Assets		
Surplus on Ancillary Services	2,653	320
Depreciation of Fixed Assets	(27,662)	(27,269)
General Reserve Transfer	25,009	26,949
Net surplus for year	133	104



# Appendix IV

### Balance Sheet At 30 September 2012

	2012	2011
	€′000	€′000
Fixed Assets		
Tangible assets	774,105	776,978
Investment properties	43,930	54,245
	818,035	831,223
Current Assets		
Bank and cash balances	183,618	198,858
Debtors and prepayments	40,914	38,196
Stocks	457	406
	224,989	237,460
Current Liabilities		
Creditors and accrued expenditure	(212,308)	(225,923)
Bank balances	(307)	(370)
	(212,615)	(226,293)
Net Current Assets	12,374	11,167
Net current Asies	12,374	11,107
Long Term Liabilities		
Creditors due after one year	(133,869)	(137,727)
	696,540	704,663
Represented By:		
General reserve	696,155	704,411
Revenue reserve	385	252
	696,540	704,663





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