



# THE FOUNTAIN

TRINITY COLLEGE NEWSLETTER

Campling's War

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Tony's Crony

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One CERN in  
the Fountain

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Trinity star-gazers

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New Fellows

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A Grammy  
nomination from  
Whewells

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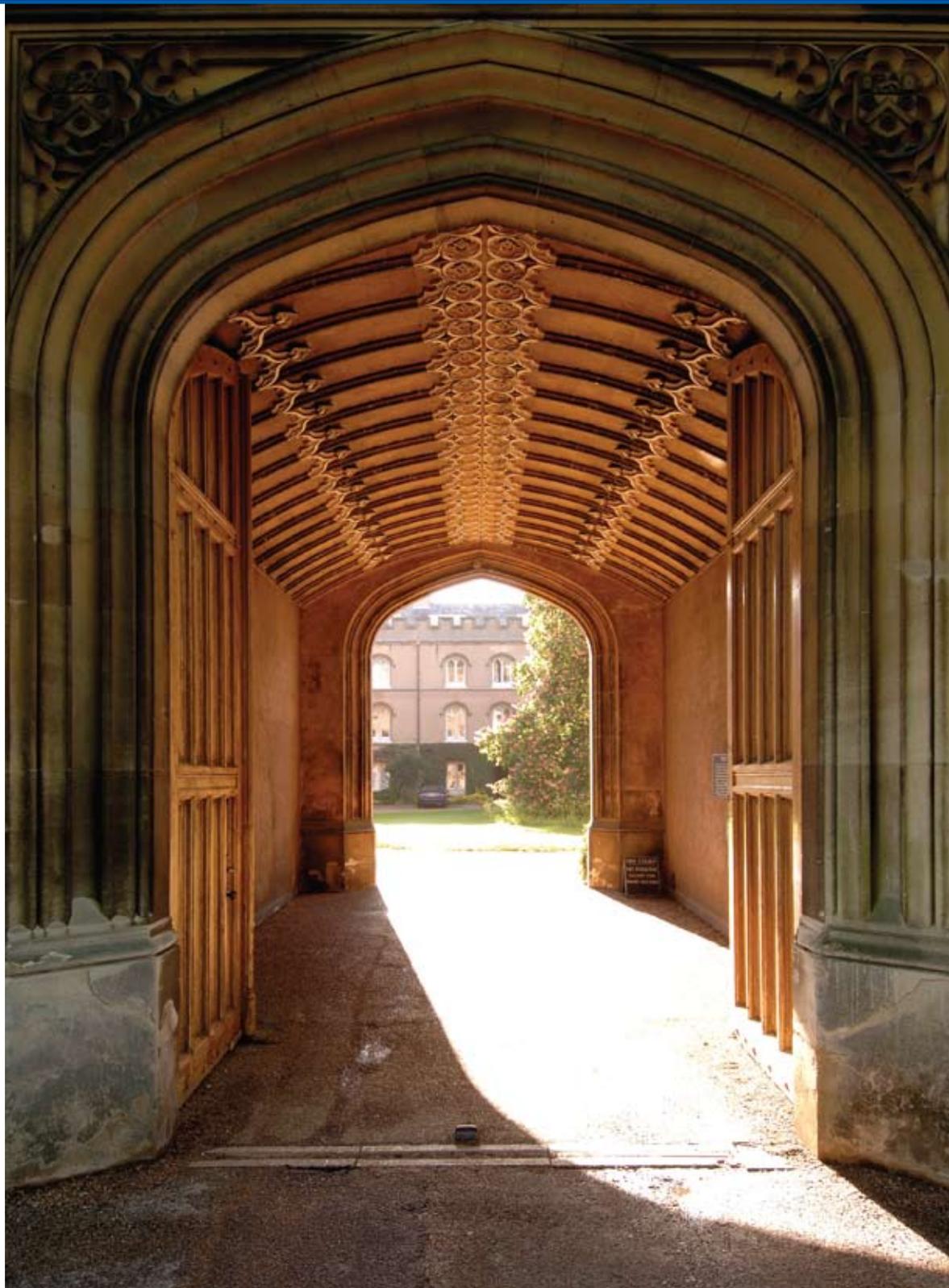
Trinity Associations  
New and emerging

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Family Barbeque

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Trinity in  
Camberwell



# EDITORIAL

2009 is the 800th year of Cambridge's scholarly life. We hope many of our members will enjoy the celebrations. Details of these are at [www.800.cam.ac.uk](http://www.800.cam.ac.uk). The University has declared 2009 to be not a target date but a milestone. That is all the more true for Trinity. Our more visible alumni relations programme began only four years ago. There is a long road ahead. The 700th anniversary of King's Hall, one of our two parent colleges, is in 2017. Our own 500th anniversary, 2046, is one third of a century away. These dates too will become mere milestones in Trinity's history.

The most important item in this eighth issue of *The Fountain*, therefore, is the announcement of the birth, or anticipated birth, of three new Trinity associations—for members active in the arts and media, for medics, and for engineers. The news from our existing associations will give these welcome newcomers a foretaste of what to expect: a deepening of their members' involvement in the life of the College.

To reinforce our renewal of Trinity's determination to remain the same—*semper eadem*—which is to say the best, our back page also announces a Family Barbecue on 19th July. We hope this event will be enjoyed especially by those who bear responsibility for young children and who may have felt excluded from our calendar of dinners and evening receptions.

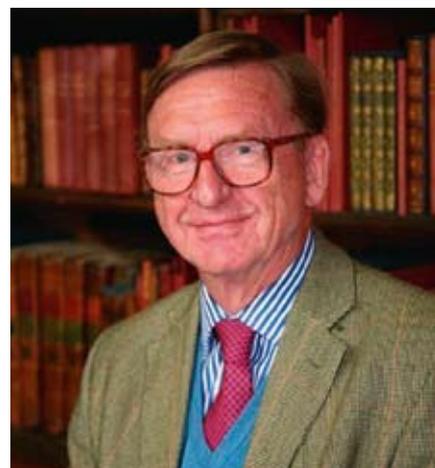
We can renew tradition too. Trinity's great capacity for learning and research owes everything to benefactors who gave to the College

or remembered it in their wills.

Our endowment has enabled us to open our gates to all applicants of talent, irrespective of circumstances, whether family or, as now, national and global. The present moment we see as a challenge, not a setback. Our Annual Fund remains annual, while membership of the *Great Court Circle*, for those who have promised bequests, rose by a quarter this year.

Another tradition renewed is the special effort that Choir and Chapel make on Remembrance Sunday for all our members who have served or are serving in the forces. One who came last year, Michael Campling (1948), lent us the Great War diary of his father William (1909). We have room only for the last days of his war, spent with Riddle, his batman, on the rain- and shell-soaked banks of the River Scheldt—to the French the Escaut. As today you sweep out of Lille by Eurostar en route to Paris you can almost, not quite, see the flat fields to the east over which the Revd Campling once dragged his bike or a wounded comrade. A cemetery for those he buried lies north of Esquemes, by the river. His full diary may be read on the Trinity website, on the alumni pages.

Trinity renews itself without cease. In our pages we welcome our annual intake of new Fellows, in a wide range of disciplines. Dr Gibson shows how she and others are advancing our cosmic knowledge—in a Trinity tradition outlined by our Master, who omits to mention his own role in the death of the 'steady state' theory of the Universe. Julian Hunt illustrates



how Trinity's graduates can renew the public life of the country. 2009 is not so much an anniversary as the start of a new era.

*Professor John Lonsdale (1958),  
Fellow, Secretary to the Alumni  
Relations Committee*

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# THE LAST DAYS OF THE GREAT WAR: AN ARMY CHAPLAIN'S DIARY

## Saturday November 2nd

Up at 3.15. Riddle brought cup of tea and we walked to Esquelmes to D. Company H.Q.—arrived there by 3.50. Raid to start at 4.00. Waited until 5.00. 6 prisoners captured. Patrol had entered Cubrioleit Litaid—400 yards from opposite bank of Scheldt. Lieutenant Brown was going off to relieve A. Company who were supposed to be holding the village. I joined him and Riddle—quite light—beautiful sunrise—red sky. Crossed the river and skirted a bank running alongside canal. Got near to village and found bridge over canal blown up. Wondering what to do when bullet whizzed past. Took cover and M[achine] G[un] opened fire. Three wounded. Riddle got one through water bottle and trousers. Retired under fire of machine gun and sniper. Dragged along man with broken leg—occurred about 6.00am. Must have taken us until 9.00 to get him under cover of bank of river. Dragged him (Private Coombs, 2 Trinity Place, James Street, Bath) foot by foot until we were within 15 yards of bank. Then had to get him up and over the bank. Put a splint for his leg—rifle. Tied waterproof sheet as stretcher and then decided the best way. Everything ready. Gave the word—a little spurt. No sniping. (Everybody else had been sniped—actively.) Two more spurts and we had got him safely across. What a relief. Then waited for stretcher. Very difficult job getting him along the bank—steep and high, greasy. (It had been raining)—Very hard work. Got him back finally and straight to R[egimental] A[id] P[ost]. Bandaging and Splint good—nothing

to be altered. Got in by 10.00 for breakfast—tired and oh so dirty!—Filthy and scratched. Had to lay down. Walked over to Ramegies Chin [village] to see the Essex [regiment] in afternoon.

Congratulated by Colonel at supper—“a very stout piece of work.” They had all been anxious about us having heard of the position. Felt very happy about it—I seemed to love the man—I suppose because I had done so much for him... Bad night—indigestion...

## Sunday 3rd November

Celebration at 7.30—10 present. 7 officers. I am sure that going out in a Fighting Patrol had an effect—two officers had volunteered to take out a patrol since. In evening a M. gunner came into chateau with broken arm and bleeding profusely—Bandaged him up properly. (Third case in about four days.)

## Monday 4th November

Spent morning going round seeing people. Lovely morning—fresh and bright. Sleep after lunch then went out to see about two Durham men buried in Esquelmes Church. Saw old women—about 80—forced to leave their home by interpreter. Boy of 7 carried on horseback nearly dead. Directly they had emerged from their home shelling began. Pitiful sight—shelling very close. Walked up to R.A.P after tea.

## Tuesday 5th November

Rotten day—advance ordered but Huns had not cleared out—position very dangerous for our men across the river. Shelling heavy all day. . . . [F]uneral at 4.00. Worst service I have ever taken—fortunately we were in a

little corner of the churchyard. Shells dropping fast all round—fragments flying everywhere. Afterwards went into church and sheltered for a while. A very wet dangerous day—feeling awfully sorry for our poor men out in it all amidst all the danger—several casualties and many sick with ‘flu’.

## Thursday 7th November

... [R]ang up Staff Captain and asked him if he would like me to get a soup kitchen going for the Essex... Stopped at Dressing Station for soup packets and got enough for about 50 men. Three shells dropped very close as I was walking along... Stopped in a ditch up to my knees and got very wet... Had to pull the bike. Dreadful work. Got awfully cross and tired and hot. Arrived about 6.00 very weary... Set up kitchen and got soup going. Colonel brought one man out from each outpost. Served 100 men before 11.00. All enjoyed the soup. It was really good.

## Saturday 9th November

...Afternoon borrowed Adj[utant]'s horse... to find out about the Somerset men killed in village and not brought in...

## Sunday 10th November

Up at 3.45—breakfast 4.30... Slept in afternoon... 4.00 funeral service in A company.

## Monday 11th November

Armistice signed by 11.00. Looked round for concert room. In the afternoon tried to find a concert party—a very ‘uneventful’ day—no excitement at all.—Cold glorious weather.

*William Charles Campling (1909)*

# TRINITY, WEATHER

By Julian Hunt

The issues that excited us at Cambridge in the early 1960s may seem rather remote today. At breakfast in Hall we discussed the court case that determined that *Lady Chatterley's Lover* was not obscene. In the evenings we held packed meetings with shop stewards and managers, to try to understand Britain's chronic industrial relations. Nuclear war loomed in the Cuban Missile Crisis, and was illustrated by the lectures Arthur Shercliff of Trinity gave in the engineering department, on how the new subject that combined hydrodynamics and electromagnetism might improve rocket technology.

Visiting a hydroelectric-energy and irrigation project during a long-vacation trip to Pakistan launched me into a research career that applied fluid mechanics, first, to energy and, later, to environmental problems—both of which have since moved to the centre of public affairs. I learned that fundamental research provides lasting satisfaction, especially when it leads to worthwhile applications. But these inevitably come and go, and one must be philosophical. For instance, magneto-hydrodynamics was not, in the end, used for rockets—since, as Shercliff joked, there was no point in dropping magnets on Moscow. It was also too costly for making power stations more efficient—the subject of my PhD and Trinity Fellowship dissertation. Rab Butler, our then Master, called this a contribution to reducing Trinity's electricity bills. Alas no! But magneto-hydrodynamics still plays a key role in nuclear fusion.

After my doctoral work I took up environmental research in the

Central Electricity Generating Board, focusing on turbulence. We had to work out how large cooling towers, 100 metres tall, could vibrate 'like a belly dancer' and then collapse in a few minutes—fortunately during a tea-break—and how sulphur dioxide from UK power stations blew over Scandinavia and Scotland to poison their lakes and damage Royal fishing! At the CEGB I also began my political apprenticeship in the Labour movement, taking up the branch chairmanship of the Electrical Power Engineers Association.

Returning to Trinity in 1970, my studies into turbulent eddy motions spread in many directions, including those suggested by my wife Marylla's close observations of convection in jam-making. I also found new ways to combine my interests in the environment and politics. The City Council, on which I was elected leader of the Labour group, started measuring the air pollution in Sidney Street. We pedestrianised the city centre, first as an experiment and then permanently, following an enthusiastic study by Cambridge students. City and Labour politics were nothing compared to the biting comments of Binnie and Simpson on the Trinity Gardens Committee when, in the Fellows Garden, we took needle votes on its flower-planting schemes. A visiting landscape expert blamed their idiosyncracies on our excessively democratic ways.

As a Fellow one reads the Council minutes every week, with their details of Trinity's investments. From the 1970s we were impressed by how well the new high-tech companies on the



Cambridge Science Park contributed to the College's income. Apparently this realisation surreptitiously turned some of us into capitalists. With other university colleagues I set up an environmental consultancy company, to enable new research to be put into effect more rapidly than through the uncertainties of either publication or consultancies for industry or government. Cambridge Environmental Research Consultants (CERC) developed new software in its King's Parade offices, now used worldwide. In Beijing last summer CERC helped in the daily air pollution forecasts during the Olympic Games, on which the authorities took action.

I became attracted by the possibility of applying science on a broader stage by running a government agency, like Trinity Fellows before me. Isaac Newton had moved to the Royal Mint and then to Parliament in the 1690s. Gilbert Walker, whose 1900 Fellowship thesis was on the mathematics of spinning tops, became director of the Indian Meteorological Department, where he discovered the oscillations that swing across the Pacific to affect the world's climates. He also interviewed



# & WESTMINSTER

Ramanujan and helped to bring him to Trinity.

In 1992 I became chief executive of the 2,500 staff of the Meteorological Office for a five-year term. My first task was to respond to the critical report on what had happened in the great storm of 1987, written by the chairman of our advisory board, Peter Swinnerton-Dyer—another Mathematical Fellow of Trinity. We had to improve our forecasting methods. In 1992 the UK's weather forecasts were systematically less accurate than those of five other countries. By 1999 they were accepted as the most reliable in the world.

Thanks both to our Honorary Fellow Sir James Lighthill's interest in hurricanes and typhoons, and to collaboration with a colleague in Hong Kong, the Met Office began to forecast quite accurately the chaotic tracks of these devastating storms around the world. In a George Smiley-ish move I had to invite myself to Miami with the graphs in my pocket before the USA Hurricane Center accepted the value of our new forecasts.

In Whitehall the 1990s were a lively time as Mrs Thatcher's public-sector reforms—initiated by Sir Robin Ibbs of Trinity—led to the greater independence and commercialisation of government agencies. I had to change the Met Office from being grant-funded into a 'trading fund', reliant on contracts for government services. These were less predictable than our weather forecasts. For our first trading year we budgeted for a profit of £10m. In fact we made £20m. We had not known how popular we were!

Having Professor Pesaran, a Trinity Economics Fellow, on our advisory board had certainly helped. Of course the Ministry of Defence quickly changed the rules.

In Britain most rules are vague, including those relating to the advice given by civil servants to political parties preparing for power. So I did not feel inhibited in telling the Labour party about the new structure of government agencies. When Mr Blair came to power in 1997 he pushed these reforms even harder.

Thanks to kind words by senior Labour Party colleagues, in 2000 I was invited to become a Life Peer—one of 'Tony's Cronies'. Joining the many other Trinity Peers, I chose the title Baron Hunt of Chesterton—where I had been a resident, councillor and school governor. In the Lords the leisurely, non-confrontational, discussions on environment, energy, education and governance can make a real difference. I surprised a minister by asking him why the Transport Bill (2000) had reached the Lords without mention of the environment. He gave me a jokey reply: 'So you have time to read Bills, do you, Julian?' but the Bill later acquired several 'green' amendments, which have benefited air quality and noise levels in many cities.

The most important legislation of this decade has been the Climate Change Bill. This places long-term responsibilities on government to reduce carbon dioxide emissions and to adapt our country to the likely consequences of global warming: rising sea level, floods etc. As a large landowner Trinity might need to have its own policy!

This has also been a time of difficult and bitter debates on war, security and justice. Their parallels with our undergraduate discussions in the 1960s remind one that a broad Trinity education lasts almost forever!

*Professor Julian Hunt, 1960, Fellow, Lord Hunt of Chesterton CB FRS*

## FORTHCOMING CHOIR DATES

### Sunday 19 April 2009

1.00pm Lunchtime Recital in Chapel as part of 'Cantat 800'. This is a week-long celebration of the University's rich and diverse tradition of choral music, as part of the University's 800th anniversary celebrations.

### Sunday 7 June 2009

12.00pm Singing from the Towers  
8.45pm Singing on the River

### Wednesday 1 July 2009

4.00pm BBC Broadcast of Choral Evensong

### Monday 6 July 2009

7.30pm Concert in Tewkesbury Abbey, as part of the Cheltenham Music Festival

### 9–22 September 2009

Tour to California

*The College website has further details of repertoire, tickets and other concerts being planned as this edition went to press*

# ONE CERN IN THE

By Valerie Gibson



September 10th 2008—“Big Bang Day”. While the world’s media was gathered for the launch of the Large

Hadron Collider at CERN in Geneva, I attended the “Big Bang Breakfast” in Westminster to participate in the satellite broadcast and to talk to Members of Parliament and the media. The day was a great success; the two beams of protons within the Large Hadron Collider (or the LHC) had circulated its 27 km circumference and we expected real collisions within days.

So what is all the excitement about? Since the early 20th century, physicists have been building a picture, with solid theoretical grounding, of the most fundamental particles in nature and the forces between them. This picture is called “The Standard Model” and it successfully explains all high energy physics experimental observations to date. A brief overview of the Standard Model is given in Figure 1.

My own contributions to the Standard Model over the past 25 years include understanding the behaviour of quarks inside nuclei; the discovery of a particular flaw in the symmetries of nature (called direct CP violation) which leads to an asymmetry between matter and antimatter; and precision measurements of the Z boson and its decay products. All this science would have been impossible without CERN, its accelerators and the collaboration of many other physicists and engineers on the experiments.

However, there are many questions that the Standard Model cannot answer, such as:

- Why are the W and Z so massive, whilst the photon has zero mass (i.e. does the Higgs boson exist)?
- Why is the Universe only made of matter (or what happened to all the antimatter)?
- Why are there only 3 families of matter particles?
- Are the carriers of force related to the matter particles?
- Why are there 4 forces and can they be unified into a single Grand Unified Theory?

It is generally believed, on theoretical grounds, that the Standard Model will fail at energies above about 1 TeV (equivalent to  $10^{12}$  eV) and that new physics will be required to explain our observations. Since the LHC is designed to collide protons of energy 7 TeV, it will be sensitive to these new phenomena, thereby giving us an insight into some of the unanswered questions.

Four large experiments have been constructed at the intersection regions of the LHC. Two of the experiments, ATLAS and CMS, are “general purpose” detectors; the other two experiments, LHCb and ALICE, are “specific purpose” detectors. Each experiment is like an enormous microscope that observes the outgoing particles produced in a proton-proton collision and delivers the information electronically at a rate of 40 million times per second.

Since coming to Trinity as a teaching fellow in 1994, I have been a member of the LHCb experiment. LHCb is designed to search for new phenomena in the decays of the third generation

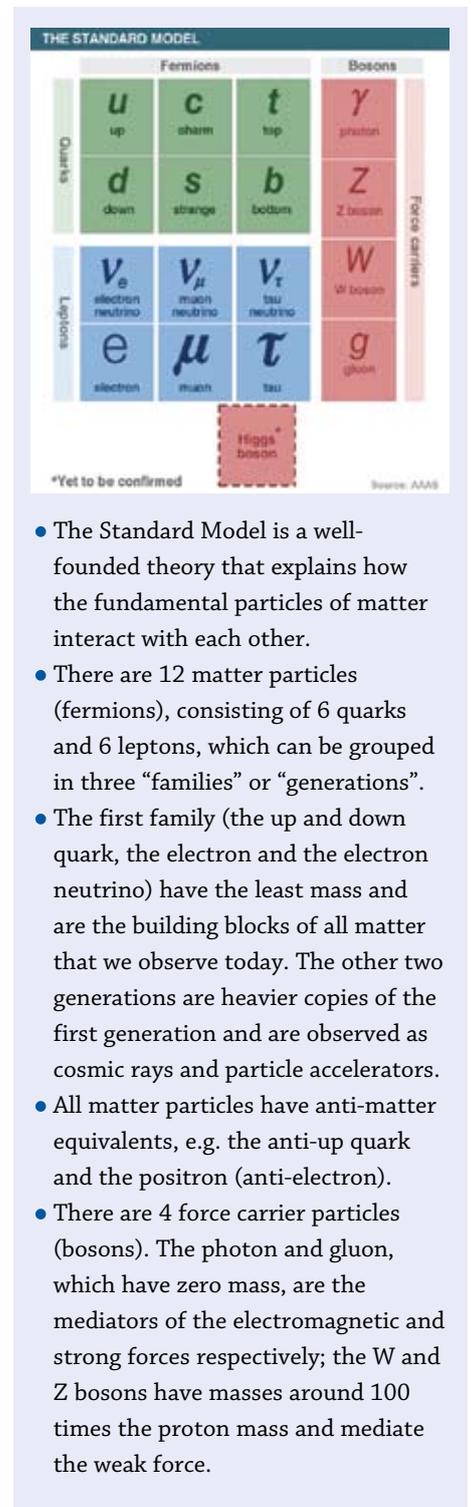


Figure 1: An overview of the “Standard Model” of particle physics.

# FOUNTAIN

b-quark via quantum loop processes and to explain matter-antimatter asymmetries. My Cambridge research group, along with 49 other institutes around the world, has been developing, constructing, installing the experiment and preparing for physics for the last 15 years. The experiment is now complete (as shown in Figure 2) and we all eagerly await first collision data.

So what has happened so far? Unfortunately, two weeks after “Big Bang Day”, the LHC suffered a severe “technical hitch”. Just as the machine operators were increasing the power on the magnets in the last section of the accelerator, a tiny resistance (about  $10^{-9}$  Ohms) appeared in a section of superconducting wire joining two of the magnets. This led to an electrical arc, which made a hole in the enclosure containing the liquid helium that keeps the magnets cold at  $-271^{\circ}\text{C}$ . The helium escaped into the outer vessel, which

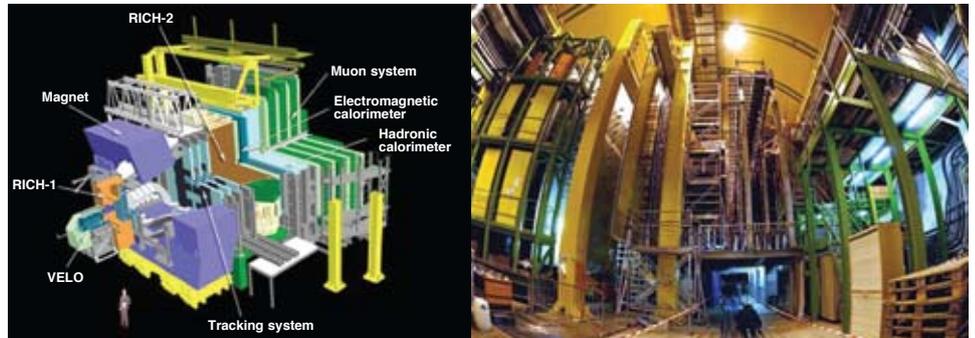


Figure 2: A schematic of the LHCb experiment (left) and the real thing (right).

was not designed to withstand a large and sudden pressure increase, and a series of mechanical components gave way, damaging some of the magnets. These magnets now need to be replaced and, as a result, the LHC and its science programme have been delayed by about ten months.

However, ten months in the ~30-year lifetime of the LHC (15 years construction and 15 years taking data) is a small price to pay for this amazing technical challenge and the

ultimate science rewards. So, everyone involved with the LHC project and its experiments remains very optimistic for the future; we now expect first collisions during the summer of 2009 and hopefully the new discoveries for which we have all waited so long.

For more information, please have a look at <http://public.web.cern.ch/public/>

Dr Valerie Gibson (e 1994) Fellow, Natural Sciences (physical)

## TRINITY COLLEGE CHOIR

### New CD release

Trinity College Choir's latest CD release is a recording of music by Pawel Lukaszewski.

Lukaszewski is the most outstanding of the younger generation of Polish composers specializing in sacred choral music. He has an enormously subtle and varied harmonic palette with an organically new harmonic world created for each piece. The disc includes his sequence of seven *Advent Antiphons*, two *Lenten Motets* and a setting of the *Nunc Dimittis* written especially for the disc.

“Stephen Layton conjures magical and sophisticated performances from The Choir of Trinity College, Cambridge, and I imagine that the composer must be in seventh heaven.”

*International Record Review*,  
September 2008

“With performances as sonorous and acutely paced as these, they come across with a winning fervour.”

*The Daily Telegraph*,  
September 2008

“Layton's affinity with this radiant, accessible music is clear as he guides the Trinity College Choir, which sings with passion and purity throughout this programme.”

*BBC Music Magazine*, September 2008

Copies of the CD are on sale in aid of Trinity College Choir Fund at £13.99 including postage and packing. To order, please send a cheque (payable to Junior Bursar Trinity College) to the Music Office, Trinity College, Cambridge, CB2 1TQ

# THREE CENTURIES OF

By Martin Rees

Cambridge's tradition in astronomy dates back to 1702, when the Reverend Thomas Plume, Vicar of Malden in Essex, bequeathed an endowment 'to maintain a studious and learned Professor of Astronomy & Experimental Philosophy, and to buy him and his successors books and instruments, Quadrants, Telescopes &c so as any ingenious Scholars or Gentlemen may resort to him in the proper seasons to be instructed and improved by him in knowledge of Astronomy, the Globes, Navigation, Naturall Philosophy, Dialling & other practical parts of the Mathematicks.'

The first Plumian Professor was Roger Cotes, protégé of Newton and Fellow of Trinity. An observatory was constructed for him atop the Great Gate. But the eighteenth-century incumbents of the chair (including Robert Smith, later Master of Trinity and now remembered for the 'Smith's Prizes' in mathematics established in his name), were less than diligent. By the end of the 18th century the observatory was 'through disuse, neglect and want of repairs so much dilapidated as to be entirely unfit for the purpose intended.'

In 1823 a University Observatory was built on Madingley Road. Its fine neoclassical building remains as part of the Institute of Astronomy. George Airy, appointed Plumian Professor in 1828, brought the Observatory into operation. An energetic—indeed brash—character, he had been appointed Lucasian Professor,

Newton's Chair, when only 26. Two years later he had been enticed into the Plumian Chair. Before transferring, he wrote to the Trustees:

'The professor feels confident that the University will not positively require of him, and cannot reasonably expect from his successors, that they will renounce all other expectations and abandon all other sources of income to employ themselves in occupations so incessantly laborious for so small a stipend as that now attached to the care of the Observatory.'

This pleading secured him a pay rise from £300 per annum (the Lucasian stipend) to £500. Airy stayed only eight years, before moving to Greenwich as Astronomer Royal—and no doubt further boosting his emoluments.

After 1900, the west coast of the United States, with its climatic and financial advantages, became the preferred site for large telescopes. The Plumian Professor from 1913 to 1944, Arthur Eddington of Trinity, was primarily a theorist. His insights into the nature of stars established him as the pre-eminent astrophysicist of his generation. He was also the prime promoter of Einstein's theories in the United Kingdom, and led the 1919 eclipse expedition which discovered that light rays were indeed bent by the Sun's gravity as relativity predicted—an episode recently portrayed on BBC TV in a docudrama, excellently played even though lacking in verisimilitude.

Cambridge recovered world-class status in observational astronomy via



radio astronomy. This novel technique was pioneered by physicists who had been involved in radar research during the Second World War. Cambridge's effort was led by Trinity's Martin Ryle. From the early 1950s to the 1970s, he built a series of increasingly sensitive radio telescopes, based on his own innovative designs—for which he later won the Nobel Physics Prize. Radio waves from space can pass through clouds, so England had no climatic handicap in this new science.

Radio telescopes are amazingly sensitive to very weak signals. Ryle had a nice way of illustrating this. When his observatory held 'open days' visitors were asked to take a tiny slip of paper from a pile. On it was written: 'in picking this up you have expended more energy than has been received by all the world's radio telescopes since they were built'.

Some of the strongest emitters of cosmic radio waves were unusual 'exploding' galaxies, now believed to harbour massive black holes. Ryle realised that some of the objects he detected were billions of light years away: they therefore offered



# TRINITY ASTRONOMY

a probe into what the universe was like billions of years ago. He could therefore address a crucial cosmological question: was the universe evolving, or has it always been the same? This was then an especially lively issue in Cambridge, because of an original cosmological theory developed by Fred Hoyle, together with two theorists who had come to Cambridge as refugees from Austria, and who both became Trinity Fellows: Hermann Bondi and Thomas Gold. Bondi, primarily an applied mathematician, contributed influential ideas to astronomy and the theory of relativity and went on to a long and distinguished career in scientific administration. Gold's range of expertise was more eclectic. His academic career was launched by a thesis on hearing and the physiology of the inner ear; he went on to deploy his physical insights in many areas.

Bondi, Gold, and Hoyle conjectured that we might live in a 'steady-state' universe, in which continuous creation of new matter and new galaxies maintained an unchanging cosmic scene despite the overall expansion. They came up with their idea in 1948, after seeing a film called *The Dead of Night*, whose conclusion recapitulated the opening scene. To its proponents, the steady-state theory had a deep philosophical appeal—the universe

existed, from everlasting to everlasting, in a uniquely self-consistent state.

But it could be tested. Because of the finite speed of light and radio waves, we view distant objects as they were a long time ago. Ryle claimed, by studying the statistics of his radio sources, that remote objects, on average, looked different, so that we could not be living in a steady-state universe. Ryle's argument provoked a noisy and often ill-tempered controversy that ran for several years—until other even more compelling evidence emerged against the steady-state theory.

A second development—the advent of cheap air travel—was equally important in reviving observational astronomy here. From the 1960s onward, Cambridge astronomers could use telescopes on good overseas sites: our climate was no longer an impediment. Optical astronomy is the oldest branch of the subject but has undergone a renaissance in the last decade. Modern optical telescopes are enormously more powerful than their predecessors: they can achieve sharper images; new 'solid-state' detectors are fifty times as efficient as photographic plates for detecting faint objects; optical fibre techniques allow spectra to be taken hundreds at a time, rather than one by one. Cambridge has taken a leading part in these developments,

as well as in the Hubble Telescope and other instruments that get a clear view from above the atmosphere.

In 2009 we celebrate the anniversary of Charles Darwin, who showed how we evolved from simple beginnings on the young Earth. Astronomers aim to go back still further, and to trace the history of our entire cosmos as far back as possible. The subject has a widespread intrinsic appeal. Indeed it's a cultural deprivation to be unaware of the chain of processes that led from some mysterious 'big bang' nearly 14 billion years ago to the emergence of atoms, stars and planets—and how on at least one planet, creatures evolved able to ponder their own origins.

The University's high profile in astronomy helps to boost its international standing; it also enhances Cambridge's appeal to potential students of physical and mathematical science. Not only the United States but also the countries of mainland Europe are now deploying greater resources for astronomical research. Building on our traditions and maintaining our standing are therefore an ever-tougher challenge.

*Martin Rees (1960), Lord Rees of Ludlow OM PRS, Master of Trinity, Professor of Cosmology and Astrophysics*

*Axel Jessner (1979), now of the Max Planck Institute for Radio Astronomy at Effelsberg, Germany and an inheritor of Trinity's astronomical tradition, has generously donated part of his 2005 Descartes Prize money (given by the European Commission for excellence in team research) for funding an Eddington lecture.*

# NEW TRINITY



Tony Cheetham



Daan Frenkel



Venki Ramakrishnan



David Washbrook



Godfrey Gumbs



Joshua Sanes



Antonino Cattaneo

## PROFESSORS AND A SENIOR RESEARCH FELLOW

Three distinguished senior scientists have joined us this year. Two have come from overseas to take up Chairs—a boost for the UK, not just for Cambridge. And a new Senior Research Fellow reinforces a Trinity tradition.

**Tony Cheetham**, originally from Christ Church, our sister College in Oxford, is the University's new Goldsmiths Professor of Material Science. He comes to us from Santa Barbara, where he ran a large laboratory working on catalysis, energy conversion, and nanoscience in general. He has forged links with the developing world, organising courses in Vietnam, Korea, Africa, China and India, and is helping to found a new institute in the Middle East.

**Daan Frenkel**, the new Professor of Theoretical Chemistry, has spent most of his career in Amsterdam. He works particularly, via computer simulations, on what makes molecules line-order themselves, as in a crystal or liquid crystal. He is a Foreign Member of the Royal Society—a rarer honour than mere FRS.

**Venki Ramakrishnan** graduated from Baroda University in India and then moved to the USA, researching at Yale, Brookhaven and Utah before coming to Cambridge in 1999 as a Group Leader in the Laboratory of Molecular Biology. He applies advanced crystallographic techniques to learn how messenger RNA is decoded by ribosomes. This is the key process that translates the genetic code into proteins.

**David Washbrook** (Trinity 1966) returns to us as a Senior Research Fellow—under 'Title B'—from St Anthony's College, Oxford. His distinguished stream of publications on South India has focused on the economic and legal aspects of British rule. His return, together with the appointments of Joya Chatterji and Eleanor Newbigin last year, restores Trinity's distinctive strength in Indian history.

## VISITING FELLOW COMMONERS

Trinity is proud to be able to offer distinguished scholars from other Universities the opportunity to conduct their sabbatical researches here in Cambridge, in collaboration with their Trinity colleagues. We have five such visitors this year.

**Godfrey Gumbs** (Trinity 1968) has been working with Michael Pepper in the Cavendish, to measure the charge on an electron very precisely indeed—to pin down one of the fundamental numbers of physics.

**Joshua Sanes** is head of the Centre for Brain Science at Harvard. He works at the molecular level on links between nerve and muscle that are crucial to the development of synapses, an area of interest to several of our Fellows, including Roger Keynes, Horace Barlow, Rick Livesey and Daniel Wolpert.

**Antonino Cattaneo** is visiting from Italy, where he helped his mentor, the great veteran neurobiologist Rita Livi-Montalcini, to set up a new neuroscience institute. His main collaborator will be Michael Neuberger in using genetically engineered antibodies to silence very specific proteins, especially one believed to have a role in Alzheimer's disease.

**Gabor Domokos** comes from Hungary where he studies the stable equilibria of objects of different shape. Dice have six, a dinner-plate has two, and so on. He is interested in how this affects the way shapes evolve in the biological



# FELLOWS



Gabor Domokos



Robert Hillenbrand



Roger Benson



Beci Carver



Swee Kuan Goh



Richard Payne



Jacopo Stoppa

world: if you're a turtle or beetle it is better to be unstable rather than stable when you're upside down.

**Robert Hillenbrand** (Trinity 1960) an expert on all aspects of Islamic art and architecture, revisits us from Edinburgh University as the Slade Professor.

## FIVE TITLE 'A'—OR JUNIOR RESEARCH—

FELLOWS, the life-blood of the future, were elected in October, two in science, one in mathematics and two in the humanities. Two are from overseas, two from other Cambridge Colleges, and one was an internal candidate.

**Roger Benson**, who comes to us from Wolfson College, works on dinosaurs. He has sorted out the evolutionary tree which leads from Jurassic Park to modern birds. The root was thought to be a single animal, Megalosaurus. Its remains were first found in 1824, and the razor-edged teeth and running legs led its discoverer to coin the term dinosaur or 'terrible lizard'. Since the fossil record is scattered over the world, all large fast predators

were treated as one species. But by looking at every single fragment of 'Megalosaurus' Roger saw that the Jurassic world contained many different predator species. He has paved the way for a new look at global dinosaur biogeography.

**Beci Carver** was born in Wales and educated in Welsh-speaking schools. But here, at Fitzwilliam College, she read English. Her Fellowship dissertation on 'Literary Modernism and the Business of Living' examines the nature of waste in Modernist literature, both the incidental waste of things, but also waste as a figure, a way of writing about the condition of modernity, in analysing a wide range of authors including Eliot, Auden, Waugh, Becket, and Virginia Woolf.

**Swee Kuan Goh** (Trinity 2005) is a physicist from Malaysia, and did undergraduate work in New Zealand before coming to Trinity. He studies the electrical properties of some interesting materials that are very cold—and at very high pressures—more than 30,000 times atmospheric pressure. Only a minuscule grain can be compressed in this way: his technique for making measurements on such tiny

samples was acclaimed by his referees as a tour de force. His work, based in the world-leading research group in the Cavendish, may help us to understand high temperature superconductivity—a phenomenon of huge potential importance.

**Richard Payne** comes to us from Princeton. His dissertation focuses on the social and religious history of the late antique and early Islamic Near East—especially Persia. Through examination of Saints' lives and canon law texts, he reveals the role of Christian regional aristocracies in the Sassanian Empire and the way in which clerical elites responded to the Islamic conquests. Such work demands that he be a formidable linguist.

**Jacopo Stoppa** is a mathematician from Italy, and works on Kaehler manifolds, spaces representing the common ground between Differential Geometry and Algebraic Geometry. He has gone some way towards proving a conjecture by three outstanding mathematicians, Donaldson, Tian, and Yau, using a highly novel and surprising approach, acclaimed as a landmark development.

# A GRAMMY NOMINA

## Tarik O'Regan in conversation with John Lonsdale

Marion Etringer



**Congratulations on your two Grammy nominations. Can you tell us about the composition that earned you this honour? What do these nominations mean to you?**

It's an album of new works called *Threshold of Night* scored for string instruments and voices. The general tone of the disc is fairly dark, but rather ethereal, using texts by Edgar Allan Poe, Emily Dickinson and Pablo Neruda to create a through-composed narrative. The pieces are performed by an absolutely stellar American ensemble called Conspirare, directed by Craig Hella Johnson and the disc was nominated in the Classical Album of the Year and Best Choral Album categories.

The National Academy of Recording Arts and Sciences (in the USA) is responsible for the Grammy Awards. Rather like its sister organisation, the Motion Picture Academy (accountable for the Oscars), the Recording Academy is concerned with the end-user commercial product—i.e. compact

discs, records and, more recently, digital formats. Thus, in the teary-eyed tradition of Kate Winslet, there are a great number of people who ought to be thanked and who share fully in the honour of my disc being nominated.

On the night, we missed out to Stravinsky and Sir Simon Rattle, but I'm happy that ours, a disc of *contemporary* classical compositions, got nominated alongside Schoenberg and Sibelius. At a time when we have more music available at our fingertips than at any other point in our history, it's very important to recognise that classical composers are still felt to be contemporary and that the creators of contemporary popular music (rock bands, for example) are still deemed to be composers. The Grammy Awards is the one place where these disparate strands of the music industry are tied together.

**How important do you think a Fellow Commonership in the Creative Arts is for the artistic life of the nation? Would you not be starving even more creatively in a garret had you not been able to enjoy Trinity's patronage?**

There are many similar posts in various educational institutions around the world. However, what makes the Trinity FCCA so successful as a position is that it does not strive to contrive a false interdisciplinary discourse between the holder of the position and his or her colleagues in other academic fields; something which is commonplace elsewhere. In the same way that, for example, a research fellow in the sciences is left to undertake their

own work without micro-management from the College, I too am given a completely free rein with my time. There is, therefore, a bond of mutual trust between Trinity and the holder of the FCCA that can yield very productive results indeed. I firmly believe other institutions where artists work alongside academics can learn a great deal from this approach.

I've never given much credence to the 'starving artist' image and actually this stereotype is a great hindrance to the artistic community. While it may make for good biography and film material, one must remember that even so-called famous cases, such as Mozart, were only left wanting mostly on account of their own financial squandering rather than a lack of patronage or self-generated income. One of my compositional heroes is the American avant-garde composer Charles Ives (1874–1954), who happened to spend most of his life working as an insurance executive. Pre-financial meltdown, I took a leaf out of his book and enjoyed two very pleasurable years working for the American investment bank J.P. Morgan. Ives's words still echo in my ears today: 'one must never starve on account of one's dissonances.'

**How are you enjoying your time at Trinity? Is Whewell's Court an inspiring place in which to compose?**

Aside from the stale snuff in the Combination Room, there is absolutely nothing *not* to enjoy about Trinity! It's been a magnificently creative and energising time for me during which I managed to complete my first



opera and release two recordings. The tree-lined 'skyscape', which I view from my Whewell's Court office windows, is very inspiring indeed; less so the various permutations and combinations of buskers at the weekends in All Saints Garden outside. I've tried to resist the temptation to include accordion, bongos and out-of-tune folk guitar in my work accomplished whilst at Trinity, but I fear I'll weaken before my time's up here.

### Tarik O'Regan, Fellow Commoner in Creative Arts

Born in London in 1978, two-time British Composer Award winner Tarik O'Regan was educated at Oxford University, completing his postgraduate studies at Cambridge. His 2008 recording for the Harmonia Mundi label, *Threshold of Night*, debuted at #10 in the American *Billboard* chart and received two 2009 GRAMMY nominations (Best Classical Album and Best Choral Performance). Prior releases include *Scattered Rhymes*, currently nominated for a 2009 BBC Music Award (Best Choral Album), and his 2006 debut disc, *VOICES*.

At Trinity, he has completed an operatic version of Joseph Conrad's 'Heart of Darkness', developed with America Opera Projects in New York and with *OperaGenesis* at the Royal Opera House, London, where it will premier in 2010. The next major performance of his work will be the UK premiere of *The Ecstasies Above* on 7 May at the Brighton Dome, performed by the RPO and the Brodsky Quartet.

**Keith Moffatt** (1957) was elected Foreign Associate of the US National Academy of Sciences (NAS).



He was the only scientist from Cambridge to be elected in 2008, among a total of 7 from the UK. The NAS was founded under the Presidency of Abraham Lincoln in 1863, during the American Civil War, to "investigate, examine, experiment, and report upon any subject of science or art" when called upon by government. The Academy has nearly 200 Nobel laureates among its 2,100 members and 380 foreign associates. Election to the NAS is one of the highest honours to be accorded a scientist or engineer.

**Pelham Wilson** (e 1981) has recently published an undergraduate textbook on Geometry, entitled *Curved Spaces: From Classical Geometries*



*to Elementary Differential Geometry* (Cambridge University Press, 2008). The book represents an expansion of the author's lecture notes for a course on Geometry, given in the second year of the Cambridge Mathematical Tripos. This does not mean that Trinity's mathematicians may cease to attend his lectures.

**Dennis Green** (1940), 1922–2008, tank commander, medieval literary scholar and FBA, will be remembered at a Memorial Service, to which all are welcome, in Chapel at 2.30 p.m. on Saturday 9th May. A full obituary will appear in the *Annual Record*.

### The unveiling of the statue of James Clerk Maxwell Edinburgh, 25 November 2008

Keith Moffatt was glad to be able to represent the College at the unveiling of the statue of James Clerk Maxwell (1831–1879), one of Trinity's greatest alumni and first Cavendish Professor (1871–1879). The statue was commissioned by the Royal Society of Edinburgh under the Presidency of Sir Michael Atiyah OM (1949) and unveiled in Edinburgh on 25th November by Alex Ferguson MSP, Presiding Officer of the Scottish Parliament. The bronze, neo-classical, statue by the Scottish sculptor Alexander Stoddart, stands on a granite plinth at the east end of George Street backing on to St Andrew's Square. The major financial sponsors, including Trinity, are recorded on the rear of the plinth.



The bas-reliefs on the sides of the plinth represent the philosophies of Newton (shown here observing the spectrum of light refracted by a prism) and Einstein, so placing Maxwell in his rightful position as a bridge between these intellectual giants.

# ALUMNI ASSO

## TRINITY LAW ASSOCIATION

The TLA is now well established with 358 members. We have settled on a calendar of two meetings a year, with an annual dinner alternating between London and Trinity, and a drinks reception in London. On both occasions we invite the current Law students and Law Fellows. Thanks to Prof Tony Jolowicz QC (1948), this year's dinner is at Gray's Inn on 5 March; Sir Robin Jacob (1960) will speak. Our reception last November was at SJ Berwin. We combined it with a student seminar, led by HH Judge Peter Rook QC (1967).

We are rather proud of the mentorship scheme we have set up to enable students to discuss career options with established practitioners. Now in its second year this is going

well with a number of mentee students attached to mentors. Students clearly value it. We owe much to Jennifer Prior (2000), Emma Easterbrook (1995), and to Jo Miles (e 1999) at Trinity for making the scheme a success.

Membership of the Association is free. We communicate largely by e-mail. New members are very welcome. Please contact Paula Lowdell at [pl261@cam.ac.uk](mailto:pl261@cam.ac.uk).



*Jonathan Hirst QC (1971), Chairman*

## TRINITY IN THE CITY ASSOCIATION

TCA, for alumni involved in financial services, is just over one year old. Recent events, all well attended, include a successful inaugural dinner hosted by the Master at the Royal Society, a first meeting in a lecture-series, entitled 'Trinity Insights', hosted by Anthony Bolton (1968) at the offices of Fidelity, and an informal evening at a City pub. We intend in due course to establish a mentoring scheme for undergraduates thinking of a career in financial services.

A further pub night, held jointly with the Harvard Alumni Association, took place on 22nd January at the Counting House. Planning is under way for the next 'Trinity Insights' meeting later this year, to be hosted

by the Bishop of London (1965) at St Paul's Deanery in the heart of the City. The Association will hold its second annual dinner in College on 16th April 2009. As this is the 800th anniversary year, this last event is likely to be popular and members and prospective members of TCA who are interested in attending this or any other meetings are encouraged to contact the Alumni Relations Office.



*Roger Pilgrim (1975), Chairman*

## TRINITY COLLEGE CHOIR ASSOCIATION

Since its inauguration in 2005 the TCCA has proved itself to be more than a glorious social networking vehicle. Our newsletter relates how we help to

promote both the Choir and College initiatives. Last year the TCCA again helped to host a Trinity day for schools' directors of music. This is designed to demystify the application process, to increase the number of good applicants for choral and organ scholarships—and for all Tripos subjects—from schools not accustomed to sending pupils to Trinity. Far from political window-dressing, such outreach strategies do appear to have enlarged the number of talented admission candidates.

The Association helps Trinity in other practical ways. With the recent expansion in the number of Annual Gatherings a TCCA choir now stands in for the College Choir when they occur in deep Long Vacation. Thirty TCCA members also joined the Choir on Remembrance Sunday, to sing Fauré's *Requiem*. Finally, the TCCA has commissioned two oak boards recording all Trinity's Organists and Deans of Chapel, for display in the Side Chapel.

To find out more about the TCCA please go to: [www.trinity-choir-association.org](http://www.trinity-choir-association.org).



*Nicholas Yates (1991) Chairman*



# CIATIONS

## TRINITY FIELD CLUB ASSOCIATION

The TFCA exists to allow past teammates to continue playing together or simply stay in touch. Sport at Trinity is the source of many happy memories and we wish to continue this spirit. The highlight of the year is an annual day of matches between alumni and students followed by an evening event in College. The first such day last spring was a huge success. The date of the next annual day is Saturday 25th April 2009 and there will be a dinner in the Old Kitchens in the evening. Membership is available to all Trinity alumni who played for one or more of the rugby, football, netball, hockey, cricket, tennis, athletics, badminton, lacrosse, swimming, water polo, cross country, volleyball, table tennis, basketball and squash clubs. We want to involve as many generations as possible in the matches. Social members are also very welcome. To register please contact the Alumni Relations Office (email: [alumni@trin.cam.ac.uk](mailto:alumni@trin.cam.ac.uk); tel: 01223 338484) or for questions please contact me direct (email: [eagardiner@hotmail.com](mailto:eagardiner@hotmail.com); tel: 07985 561513).



*1st Lawn Tennis VI 1961*

*Ed Gardiner (2003), Chairman*

## TRINITY IN THE ARTS AND MEDIA ASSOCIATION

Trinity has long produced graduates of creative talent who have made a mark on the cultural and intellectual public life of this country and the world.

It is therefore time to invite members of Trinity in the arts and media—interpreted as widely as you wish—to join a framework that would benefit their networking interests; support mentoring activities among the College's junior members; provide a forum to discuss further ways to promote the media and arts at Trinity and among its alumni; and stimulate

a wider recognition of what Trinity brings to the creative life of the country.

Our launch event will be a reception at Kings Place in London on 28th May 2008 hosted by the Master, Lord Rees. Once established, the TAMA Committee will organise a programme of events for the next twelve months and beyond.

*Sir Andrew Burns KCMG (1962),  
Chairman of the Steering Group*

## PROPOSED TRINITY COLLEGE ENGINEERING ASSOCIATION

On Saturday 9th February 2008, Trinity College Engineering Society held a black tie dinner in the Old Kitchens for Trinity engineering students past and present. The event was a great success, being attended by 38 alumni together with 27 current students and fellows, who were addressed by the guest speaker Sir David Brown (a Trinity parent), Chairman of Motorola. Following the success of this event, we are looking to create an association of engineering and chemical engineering alumni, in order to foster greater links between current students and alumni, both

those currently involved in Engineering and those who have applied their engineering skills in other areas. It is intended that this dinner will become a regular event, as one of a variety of formal and informal events occurring under the auspices of the association's network.

Anyone interested in helping this scheme forward or in finding out more about it should contact either the Alumni Relations Office or any of the Engineering Fellows.

*Dr Stuart Haigh (1994),  
Engineering Fellow*

## TRINITY MEDICS ASSOCIATION

As part of its policy of engaging more fully with its members, the College recently held a strategy meeting with members involved in the medical field. It was agreed to pursue the idea of a Trinity Medics Association (TMA). A steering group has volunteered to

work towards that end. If you wish to register an interest, join the steering committee, or offer some thoughts on this newest association, please contact the Alumni Relations Office (email: [alumni@trin.cam.ac.uk](mailto:alumni@trin.cam.ac.uk); tel: 01223 338484).

## FORTHCOMING EVENTS

**16 April 2009**

**The Annual Trinity in the City Association Dinner** hosted by the Senior Bursar in College. This event is for TCA members and those interested in the association.

**18 April 2009**

Regional Event: **Trinity lunch in Cheshire**. Invitations have been sent out to all members living in the Cheshire area. Please contact the Alumni Relations Office if you have not received an invitation.

**28 May 2009**

**Trinity Arts and Media Association launch party** at Kings Place in London hosted by the Master, Lord Rees of Ludlow. This event is for members working or interested in the Arts and Media. Please get in touch with the Alumni Relations Office to register with TAMA.

**6 June 2009**

**The Great Court Circle Luncheon** will take place in the Old Kitchens followed by afternoon activities. Invitations will be sent to all members of the Great Court Circle, the College's legacy society.

**16 June 2009**

**TCA Insights meeting** hosted by the Bishop of London at the Old Deanery by St Paul's Cathedral.

**26 June 2009**

**Benefactors' Dinner in the Master's Lodge**. This event is by invitation only.

**19 July 2009**

**Trinity Family BBQ**. This is a new, informal event and is for Trinity members and their families. It will take place on the South Paddock with musical entertainment, a Punch and Judy show, story telling and other events. Please see the enclosed application form.

**12 September 2009**

Reception in Los Angeles, CA, following the Trinity Choir concert.

**17 September 2009**

Reception in Stanford, CA, following the Trinity Choir concert.

**27 September 2009**

**Annual Buffet Luncheon**  
Please see the enclosed application form.

**8 November 2009**

**Remembrance Sunday Service and Luncheon**

*If you are interested in registering for any of the above events, please contact the Alumni Relations Office at [alumni@trin.cam.ac.uk](mailto:alumni@trin.cam.ac.uk) or on +44 01223 761527.*

## ANNUAL GATHERINGS

**30 June 2009—(1968–1969)**

Choral Evensong at 6.30pm  
Dinner at 8.00pm

**31 July 2009—(1974–1976)**

Choral Evensong at 6.30pm  
Dinner at 8.00pm

**4 September 2009—(1984–1985)**

Choral Evensong at 6.30pm  
Dinner at 8.00pm

**19 September 2008—(1994–1995)**

Choral Evensong at 6.30pm  
Dinner at 8.00pm

*Invitations for Annual Gatherings are usually sent out approximately three months in advance and further information can also be found on <https://alumni.trin.cam.ac.uk/home>*

**Please contact the Annual Gatherings Administrator for further details at [records@trin.cam.ac.uk](mailto:records@trin.cam.ac.uk) or tel: 01223 765748.**

## NEWS FROM TRINITY IN CAMBERWELL



*The Revd Nicholas Elder and his assistant the Revd Marie John*

The Trinity College Centre has long been a community resource in Camberwell and Peckham. Many organisations use it, including a nursery school, youth clubs, and a pop-in centre for adults with learning difficulties. The Centre's 'From Boyhood to Manhood Foundation' does pioneering work with young men excluded from school confronting the problem of gun and knife crime, an issue of particular concern to Nicholas Elder, parish priest and the Centre's warden.

Notwithstanding wonderful alumni support, 2008 was difficult. The Centre's income comes partly from rents and some users, charities themselves, were slow to pay. Essential maintenance work had to be postponed. Undaunted, we intend to raise funds for two capital projects: a soft-play area, with equipment, and a wet-room/disabled toilet and kitchen area.

We thank all members of Trinity for their steadfast support for this vital community resource. For details of how to contribute please consult the Alumni Relations Office by e-mailing [alumni@trin.cam.ac.uk](mailto:alumni@trin.cam.ac.uk) or by telephoning 01223 761527.

*The Revd David Mackenzie Mills, College Chaplain*