

## **Annual report 2006 -2007**

**AGM Wednesday 31 October 2007, Sir Alexander Fleming Building, Imperial College**

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### **1. Overview**

We continue to increase our membership steadily and improve our financial stability during this year.

We continue with our aim of helping the College with one of its five strategic intents “to communicate widely the significance of science in general, and the purpose and ultimate benefits of its activities in particular.”

This year we are able to make a further contribution to the Students Opportunities Fund.

For the first time we have invited schools to our events and a number of our lectures have attracted small groups. In this way we help to promote science as a future career.

For the first time we received outside support with a donation to our funds from Winton Capital Management. This allowed us to hold a very successful Summer Party in celebration of the College Centenary which was attended by past and future speakers, senior representatives of the College including the Rector and Deputy rector and local dignitaries including the Deputy Mayor of Kensington and Chelsea.

Winton Capital Management will be supporting our activities again this year with another generous donation.

I was privileged to represent Friends when the Queen visited the College on 9 July to bestow a New Royal Charter which gives the College University status.

We continue to receive a great deal of support from the College not least in the provision of lecture rooms and technical support for which we are very appreciative.

### **2. Organisation**

This is the second year that your committee has taken on the responsibility for the organisation of our membership and activities. We are responsible for our own finances, arranging lectures, organising food and drink, managing bookings and membership.

The College has continued to support us in many ways. Firstly through promoting our lectures to the 80,000 or so on their database of members. Secondly the College provides the lecture halls and the attendant security and technical staff at no cost.

Our administrator Jill Cook has continued to provide excellent support during the year and her enthusiasm and energy has helped

Committee member Richard Tang has continued to develop our administrative website which allows us to manage our membership and event booking records. This provides a single point for members of the committee to review our records.

Richard is also developing a new website at [www.friendsofimperial.org.uk](http://www.friendsofimperial.org.uk) which will use forms to update information about our activities and also have a section whereby members can make comments about our events. Our events continue to be promoted on the College website.

Our committee has been augmented during the year by an engineering graduate Morten Olesen who has been assisting with promotion.

Our Hon Secretary Ted Wynne stepped down at the end of the year and his role has been taken over by Manu Duggal who combines it with that of Treasurer.

After many years of dedicated work on the committee Rene Medney too has felt that she should step down.

### **3. Finance**

We took over our finances in October 2005 and the College transferred £2,663.08 into our account. This sum represented the membership fees for the previous year. We reduced our membership subscription from £35 a year to £25 with a reduction to £20 if a member gives an email address or pays by standing order. This has attracted more members. We have also run each of our events in surplus. I can report that our funds at the end of the year stood at about £4500.

### **4. Donation to the college**

We are making a donation of £1000 to the Students Opportunities Fund which helps to promote sciences amongst schools, supports needy students and contributes to new facilities at the College.

### **5. Membership**

Our membership is growing steadily at about 10 per cent per annum with 114 members this year as against 93 in 2005, 87 in 2004 and 78 in 2003. We continue to attract many guests, alumni, staff and members of the public to our events, who are not members.

### **6. The year's events**

We have organised eight events during the Academic Year 2006 to 2007 – one more event than we held last year. The lectures attracted audiences of between 70 and 90. The Behind-the-Scenes events attracted between 30 and 40. We promoted our lectures on the web and in print and attracted many people who had never visited the College.

#### **Thursday 19 October 2006**

##### *"1089 – and all that"*

Dr David Acheson, Mathematician and Musician, Oxford University unravelled some of the mysteries of mathematics including the puzzle of why 1089 was such a surprising number. He demonstrated the allure and mysticism of numbers both philosophically and practically. Friends joined guests of Winton Capital Management Ltd that arranged the lecture

#### **Wednesday 13 December 2006**

##### *Christmas Lecture - The changing face of robotics*

Professor Guang-Zhong Yang, Director of Medical Imaging, Institute of Biomedical Engineering, Imperial College addressed a lecture hall packed with enthusiastic young people - some from schools in London and others brought by members of Friends. Professor Guang-Zhong gave a challenging and exciting review of the changing face of robotics, and addressed the current challenges in sensing, imaging, and vision for making robots more intelligent and autonomous.

#### **Wednesday 24 January 2007**

##### *Invisible cloaks and a perfect spyglass*

A large crowd of about 150 members and guests heard Professor Sir John Pendry, FRS, Chair in Theoretical Solid State Physics, speak about his work in creating a material that bends light waves so that it and any object within it were made invisible. He demonstrated that his theoretical calculations had been used by practical physicists at Duke University to create a material that exhibited negative refraction.

#### **Tuesday 20 February 2007**

##### *Relieving 500 million people from "forgotten" diseases*

Professor Alan Fenwick OBE, Chair of Tropical Parasitology, Director of the Schistosomiasis Control Initiative, has spent nearly 40 years working in sub-Saharan Africa working on programmes tackling

Schistosomiasis, one of several diseases including Elephantiasis, Worms, and River Blindness that affect the lives of almost a third of the world's population - the poorest of the poor, those that do not have the economic strength or importance to be the target of most politicians. In some countries as many as eighty per cent of the rural population are suffering from one or more of these waterborne diseases. Slow to kill, they are debilitating. Children are particularly affected. They suffer anaemia, malnutrition and experience lethargy, lack of concentration and difficulty in learning. "Forgotten" people with "forgotten" diseases. It was an unforgettable reminder of our privileged lives in the West.

**Tuesday 20 March 2007**

*Upgrading humans - technical realities and new morals*

Prof. Kevin Warwick – Professor of Cybernetics, Reading University and Imperial College Alumnus, spoke about his series of pioneering experiments in which he received a neural implant which linked his nervous system bi-directionally with the internet. Neural signals were transmitted that controlled remote devices, and feedback from these devices was perceived by the brain: the fingertips of a robot hand and neural signals from his wife's hand. She and the doctor that carried out the operation were both in the audience to demonstrate the success of the experiment!

**Wednesday 25 April 2007**

*Imperial Innovations stock market debut*

Susan Searle, Chief Executive of Imperial Innovations Group plc, gave the background to the development of commercial activities at the College, the formation of Imperial Innovations and the subsequent launch on the stock market last year raising £27million. The investment allowed the College to invest more at start up thus retaining more of the equity and therefore leverage. She was joined by three entrepreneurs who gave their views of recent events and talked about the risks and rewards of their spin-out companies: Dr John Hassard – Reader in High Energy Physics, founder of deltaDOT, a biotech company located in the Biocubator and founder of Hydroventuri, a renewable energy company. Dr Riccardo Bennet Lovsey – alumni of Cambridge and Imperial College, MBA Enterprise Fellow at Equinox a biotech company also located in the Biocubator and Danny Green, a former venture capital investor, worked with Imperial Innovations and is now CEO of Bio

**Thursday 10 May 2007**

*Behind-the-Scenes @ Environmental Engineering*

Some fifty members and guests joined Colin Kerr, from the Department of Civil and Environmental Engineering, who introduced the work carried out by the department. He was followed by three speakers who each tackled an environmental question. *Water supply: will we run out in SE England?* Dr Adrian Butler, Reader in Subsurface Hydrology, *Waste: how can we use more of it?* Professor Sue Grimes, Chair in Waste Management, *Effluent: resource or pollutant?* Dr Stephen Smith, Director of the Centre for Environmental Control and Waste Management. They were followed by Dr Chris Martin, Research Fellow, who spoke about his work in the far north of Russia where profound changes to the permafrost were affecting crucial infrastructure including oil pipelines.

**3 July 2007**

*Centenary Summer Party*

Nearly a hundred members and guests celebrated the College Centenary in the newly refurbished 58 Prince's Gate, a lavishly decorated and panelled late Victorian House on the junction with Exhibition Road. Amongst the guests was the Rector Sir Richard Sykes who spoke about the history and future of the College, the Deputy Rector and two of the Pro Rectors, the Dean of the Royal College of Science and several heads of Faculties and Department. Previous and future speakers also attended including Lord Robert Winston. Local guests included the Deputy Mayor of Kensington and Chelsea and Presidents of other alumni associations. The event was supported by Winton Capital Management who made a welcome contribution to the costs. Despite the incessant rain a few hardy party goers braved the weather to walk out onto the Terrace overlooking Prince's Gardens.

The organising committee of Rita Leek, Jill Cook led by Renée Medney are to be congratulated on a very successful event.

## **7. The programme 2007 -2008**

We launched our programme at the Centenary Summer Party in July. It is available on the web at [www.friendsofimperial.org.uk](http://www.friendsofimperial.org.uk). We hope that our members and others will circulate it widely and encourage their friends to join. The events are listed below.

### ***Great technologies that shaped the 20<sup>th</sup> Century***

*Thursday 27 September, 7.00pm*

*David Edgerton, Hans Rausing Professor of History of Science and Technology Founding Director of the Centre for the History of Science, Technology and Medicine.*

Which inventions have made the biggest social and economic differences? Did the V2 have more impact than the mule in WW2? Professor Edgerton, historian and author, reveals some old, some rediscovered and some new technologies that are the real movers and shakers in our world.

### ***New spin for old memories - the nanotechnology of magnetic materials***

*Wednesday 31 October 2007, 7.00pm*

*Russell Cowburn, Professor of Nanotechnology,*

At extremely small scales materials exhibit unexpected characteristics and functionality. Nanometre-scale magnetic materials can be used to build a new generation of microelectronic devices that use both the spin and the charge of the electron. Applications for such devices range from the battlefield to MP3 players.

### ***Switching genes***

*Thursday 29 November 2007, 7.00pm*

*Richard Festenstein Clinical Professor of Molecular Medicine*

An understanding of how individual cells make the decision to switch genes 'on' and 'off' during the development of specific cell types and how they 'remember' this decision through cell division may help us to understand and control some human diseases.

### ***Six impossible things before breakfast: the biology of belief***

*Tuesday 5 February 2008, 7.00pm*

*Lewis Wolpert, Professor of Biology as Applied to Medicine, UCL, Imperial Alumnus*

Biologist, engineer, author, broadcaster, columnist Prof Wolpert investigates the nature of belief and its causes. He looks its psychological basis and its possible evolutionary origins in physical cause and effect. How did tool making drive human evolution? What is the evolutionary advantage that belief provides?

### ***How Americans play baseball and the rest of the world plays soccer***

*Thursday 13 March 2008, 7.00pm*

*Professor Stefan Szymanski, Tanaka Business School*

Industrial economist and author specialising in the business of sport, Stefan Szymanski takes a penetrating, if somewhat irreverent look, at how these two sports have developed economically and socially around the world. He will be bringing up-to-date with his unique perspective on the latest sports stories of the day.

***Behind-the-Scenes @ The Energy Futures Lab***

*Wednesday 7 May 2008, 6.15pm*

*Nigel Brandon Shell Professor of Sustainable Development in Energy, Department of Earth Science & Engineering, Director of the Energy Futures Lab.*

The Energy Futures Lab is developing new renewable and cost-effective methods of producing hydrogen which can be used to operate fuel cells. After an introduction to the work of the labs we will visit various laboratories in College to see at first hand what is going on and meet the engineers and scientists working on the far reaching projects.

***Behind-the-scenes @ the Institute of Mathematical Science***

*Tuesday 10 June 2008, 6.15pm*

*Professor Philip Hall Director*

An introduction to the problems that are being tackled by the newly founded Institute of Mathematics and the sort of results that might be expected in a diverse range of subjects including biology and medicine; string theory, banking and finance, turbulence in rivers, air and the cosmos, quantum information theory, and multiscale dynamics of biosystems.

***Summer Party, 170 Queens Gate.***

*2 July 2008, 6.30pm*

Celebrate the summer in the solarium and garden of this beautiful late Nineteenth Century listed house designed by the great Victorian architect Norman Shaw and now used by the Rector, the Council, and Senior Common Room..

**8. Thank you**

I would like to thank our members who have given us great support during the year and particularly members of the committee who have contributed so much to the smooth running and success of the events.

Our particular thanks go to Renée Medney who has stepped down from the committee having supported Friends for many years and led the organisation of the Centenary Summer Party. She sends her apologies to the meeting, she has seats at Covent Garden this evening. We will be presenting her with a token of our appreciation for her contribution later in the year.

I must also report that our previous secretary Philip Temple is currently in hospital following brain surgery. His wife Hilary tells me that he is making a steady recovery.

*Roderick Rhys Jones,  
Chairman, 31 October 2007*