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Sir Gareth Roberts appointed as chairman

The Engineering and Technology Board (ETB) has appointed Sir Gareth Roberts, FREng FRS as Chairman with effect from the annual general meeting on 6 June 2006.

Sir Gareth will succeed Sir Peter Williams who is retiring from the Board, having been its Chairman since its formation in late 2001.

Sir Gareth is a Chartered Engineer and a Chartered Scientist, he has been President of Wolfson College, the largest postgraduate college in the University of Oxford, since 2001, and currently visiting Professor of Science Policy in the Saïd Business School.

Sir Gareth Roberts obtained a first class honours degree in physics and a PhD from the University College of North Wales, Bangor. He has held Chairs at the New University of Ulster, the University of Durham and the University of Oxford.

Sir Gareth has an international reputation for his research on semiconductors and molecular electronics and is the author of over 200 publications and patents. He has held two major industrial posts, the first in the United States, where he was senior research scientist with the Xerox Corporation and later as Director of Research and Chief Scientist of Thorn EMI.

These have led to several national awards and distinctions including election to Fellowship of the Royal Society in 1984, to Fellowship of the Royal Academy of Engineering in 2003 and to President of the Science Council since its inception in 2000. Sir Gareth was knighted in 1997 for his services to higher education.

Sir Gareth has conducted two major national reviews. In 2002, he completed a review for the UK Government on the Supply of Scientists and Engineers. All the recommendations in his report, 'SET for Success' were accepted by the UK Government. In 2004, Sir Gareth completed his Review for the UK Funding Councils of the Research Assessment Exercise. The major modifications to existing practice proposed in his Report have been incorporated in the forthcoming Research Assessment Exercise in 2008.

Announcing his appointment Sir Peter Williams said:

"I am delighted that Sir Gareth has accepted this appointment. With his wide experience of engineering and science both in industry and in the academic sector, he is the ideal person to lead the ETB in its next phase of development. At a time when the Government is looking critically at the provision of skills within the knowledge

economy of today, his demonstrated commitment to the next generation of engineers and scientists will position the ETB to make a strong national contribution."

Sir Gareth commented:

"I am very pleased to be taking a leadership role alongside John Morton with the ETB, and building on the accomplishments of Peter Williams and his Board. Given the Government's strong commitment to engineering, science and mathematics, and building on my broad experience in professional organisations, business, industry and academia, I hope to help achieve greater professional coherence across the engineering, science and mathematics communities."

Lord Sainsbury, Minister for Science and Innovation, said:

"Sir Gareth Roberts' skills and experience will be a great asset to the Engineering and Technology Board. He has an outstanding track record of working for the benefit of the science community, particularly through the Roberts Report on skills and as President of the Science Council. He is well placed to take forward the valuable work of the ETB, in particular on careers advice and professional development."

The competitive edge

By Wilma Shakespear, National Director, English Institute of Sport

With the gap between winning and losing growing ever smaller, physical effort alone is no longer sufficient as top level sport becomes more competitive. What is the role of science and technology in elite sport and what talent are we recruiting to deliver such specialised services?

Well, it's a question destined to be asked down the years: where were you at precisely 12.48pm on Wednesday July 6, 2005? I was in Trafalgar Square with my deputy at the English Institute of Sport and key members of the leadership team at UK Sport. Our world changed the moment Jacques Rogge, the International Olympic Committee president tore open an envelope in Singapore to reveal that London had been awarded the 2012 Olympic Games.

Fantastic. Britain had won the biggest and best prize in sport. New horizons beckoned and, suddenly, hope sprang eternal. We truly believe that 2012 will mark the arrival of the Institute Generation, a generation of athletes who have developed through the Institute system, benefiting from the application of science in their quest to reach the podium.

Consider this, at the Athens Olympics in 2004, the collective margin in seconds between Team GB winning and losing five gold medals was a mere 0.515 seconds. It therefore comes as no surprise that competitors are now incorporating technology into their training programmes as they strive to shave off the fraction of a second that could be the difference between a gold medal and fourth place.

We are seeing the role of science becoming increasingly influential in developing the ability to make such differences. Of course, you've got to have your basic foundations, athletic talent and coaching expertise as they are the key ingredients in a successful system, but science has now shifted from a nice-to-have to a must-have.

The advent of lottery funding eleven years ago has facilitated the evolution of science and technology in sport and it is an area that is growing rapidly. Supporting around 3,000 elite athletes across 9 regions, the EIS plays an integral role in delivering these services which include sports psychology, nutrition, performance analysis, biomechanics and physiology.

So let's first give credit to those sports that have already made great progress in this area such as sailing, cycling and rowing. These were some of the first sports to truly embrace the potential of science, engineering and technology in pursuit of excellence and their medal winning tally reflects that focus. For these sports, it wasn't just about technology for technology's sake, as emphasised by Scott Drawer, the technical advisor to UK Sport who said "no matter what you do with the technology, it is still in the hands of the coach. The advantage is in how the coach uses the information that science and technology can deliver…."

I'll use the partnership between British Cycling and UK Sport as an example and their quest to design the ultimate performance bike for Team GB in Athens. It was actually the knowledge and experience of the cycling team that helped shape the final design. The UK Sport technical advisory team, the coaches and the performance director of British Cycling would all sit down to discuss the basic requirement, the technical advisory team would then go away to work on ideas, which were more often than not based upon what the coaches and athletes have already come up with. We must appreciate and learn from this and from the coaches and athletes to ensure this knowledge, together with technical understanding, is applied to make a real difference.

Moving toward 2012, we will be sure to see consistently applied science and technology programmes across all sports, rather than a select group of sports with such expertise. We'll see greater numbers of coaches confident in their interpretation of technical data, and using this knowledge on a daily basis. We'll see athletes taking the information provided for granted, receiving information not visible to the naked eye as a matter of course, provided with immediate feedback and early identification of problems that could otherwise lead to injury. And finally, we'll see true partnerships between athletes, coaches and science/technology support staff in pursuit of that valuable 1,000th of a second difference between winning and losing…..

The science support to elite athletes in England is fast establishing a reputation for world leading service delivery, but such is the nature of high performance sport, continual improvement is required. Like the sports themselves we are always on the look-out for the next generation of talent; the people who will provide support to English athletes at London 2012 and beyond.

In this regards, we work very closely with our strategic partner, UK Sport. The UK Sport Fast Track Programme provides talented young practitioners with the opportunity to gain experience and hone their skills as an intern through working with us here at the English Institute of Sport. They come from a wide range of disciplines and a variety of sporting backgrounds, spending twelve months working alongside some of this country's top sports science and sports medicine experts. Obviously, the most talented interns are then retained to work full time within the network, a platform from which to build long term careers at the heart of British Sport.

Finally, the lead up to 2012 is a great opportunity to showcase how world leading Britain is in the field of science, technology and engineering and with this in mind I'd call on corporations to hold your hand up to support the development of the Institute Generation. Britain has a history of ground-breaking innovation and breaking new boundaries so whether it's in mobile technology, software, nutrition, engineering, medical services etc.. We will also be looking to you to work with us on ensuring our young talent has access to the Best of British support to turn their medal winning dreams into reality.

SET and the city

On the 1st June, Sir Peter Williams will be presenting the draft "SET and the City" report to an invited audience of experts from the finance and business, the government, and higher education communities.

The draft report is the primary output of Sir Peter's research steering group. The presentation to be held at JP Morgan Cazenove will include keynote addresses given by Mr. Danny Truell, Chief Investment Officer of the Wellcome Trust and Mr. Daren Winder of UBS, who will each give their own perspective on investment in high technology business in the UK.

Input and reaction will be invited from the audience so that additional comments can be included in the final report.

The report represents the culmination of two years work building upon the "Frontiers of Innovation" research published by the ETB in April 2004. The "Frontiers of Innovation" report made a number of recommendations aimed at enhancing UK wealth creation from science, engineering and technology (SET). Some of the findings were associated with fostering a greater understanding of the relationships between UK technology businesses and the UK financial community.

The "SET and the City" study has aimed to meet two complementary needs. Firstly to enable investors to better understand the opportunities and risks in the SET field and secondly to identify opportunities for "SET innovators" to promote their new ideas more successfully to the UK investment community.

The report has developed out of discussions from the SET and the City steering group. The steering group includes representatives from the investment community including the National Association of Pension Funds (NAPF), Association of British Insurers (ABI), British Venture Capital Association (BVCA), JP Morgan, Price Waterhouse Coopers, together with representatives from the SET community including the Royal Society, the Royal Academy of Engineering, the CBI, and the EEF. This is in addition to representatives from UK technology companies including ARM, QinetiQ, and Rolls-Royce.

The final report is due to be published in July 2006.

New HE statistics guide

In response to the success of the ETB's publication Engineering UK 2005 the research team is working on a special Higher Education edition of the statistics digest.

The new guide will take a detailed look at some of the major issues affecting the supply and demand of labour in UK science, engineering and technology (SET) Higher Education, and will act as a valuable reference for anyone interested in the large and ever-broadening SET Higher Education community.

Dr Barry Cleasby, Senior Research Executive at the ETB said:

"The work we carried out for the previous edition of Engineering UK highlighted a number of issues which were specific to Higher Education. We felt that to do the subject real justice we needed to focus an entire edition on the

issues facing higher education including department closures, drop-out rates, acceptance and completion rates at a subject by subject level. This will enable us to look in detail across the wide range of SET subjects, instead of the aggregate view as presented in Engineering UK 2005 last November."

The HE special will include detailed analysis of data supplied from the ETB's research partners including UCAS (Universities and Colleges Admission Service) and HESA (Higher Education Statistics Agency).

Dr Cleasby added

"This Higher Education guide is not a replacement for the annual publication of Engineering UK; we shall publish the full edition of the statistical guide in November 2006."

The Higher Education special of Engineering UK will be published in July.

Engineering UK 2005 can be downloaded from the ETB's website by visiting **www.etechb.co.uk/page.asp?pg=14&pg1=83**

UK-CIS collaborative SET conference

On 10th and 11th May, the International Science and Technology Centre (ISTC) and the DTI's Office of Science & Innovation (OSI) hosted a conference in association with the Engineering and Technology Board.

This 2 day conference covered some of the most important challenges in SET research today, namely infectious disease control and energy. Speakers from the Commonwealth of Independent States (CIS) and the UK joined forces to share knowledge and understanding for prospective collaboration on research projects.

During the course of the first day, delegates heard from some of the most significant scientists in virology including the renowned Professor Dimitry K. Lvov of the D.I. Ivanovsky Institute of Virology, Moscow, who shared his in depth expertise of avian bird flu. Amongst others, he was joined by Catherine Peckham, Professor of Paediatric Epidemiology, University College London, an expert in the detection and identification of infectious diseases in her role with the UK Foresight Project. Heavily discussed and debated were subjects including H5N1 avian flu, viral diseases, vaccines and bacterial infections.

The second day of the conference focused on non-conventional energy production technologies and energy efficiency. Delegates heard presentations and engaged in discussions led by a number of scientists representing prestigious academies, institutions and commercial organisations across the UK and CIS. These included Professor Evgeni Novitski from The Russian Federal Nuclear Centre All-Russian Research Institute of Experimental Physics, Russia, and also Dr David Hart, Head of Fuel Cell and Hydrogen Research at the Imperial College Centre for Energy Policy and Technology, London. Key topics on the agenda were hydrogen production and fuel cell technology.

Throughout the conference, delegates had the opportunity to engage in peer academic exchange and gain an understanding of the research capabilities of our own UK experts and those of colleagues in the CIS. This successful conference has enabled a deeper collaboration between the scientific and engineering communities and provided closer working relationships for future joint research projects to tackle some of today's most pressing global issues.

Want to inspire the next generation?

If you work in science, engineering and technology (SET) we want you to help us inspire the next generation to follow in your career footsteps.

We're looking for people working in the SET sector, in various disciplines, or individuals who have or are still studying relevant SET courses. All you have to do is sign up to our online database by filling in a short profile at **www.scenta.co.uk/rolemodels**

In return, we offer each new role model the chance to win a great prize. Any individual signed up by 3 July 2006, will be entered into a draw to win one of twelve experiences such as a glider flight, SCUBA diving or chocolate making! If you think you fit the bill, click here to take part.

With your help the scenta Role Model programme continues to grow from strength to strength, having now reached over 330 people talking about their careers in science, engineering and technology.

To inspire you here's one of our role models:

Philippa is a Year in Industry student currently at Cambridge Consultants, a leading technology and innovation company.

"At Cambridge Consultants I am working on 4 projects in total, some are in house projects and others are for external clients. Since starting in September 2005 I have worked on the design, prototyping, testing and manufacturing of products. I have also written reports about my findings during testing and these and the results have been crucial in implementing improvements and alterations to products."

"The Year in Industry scheme has enabled me to gain amazing experience and I have also managed to take a year out of education but not wasted my time. Although I have been learning throughout this year it has been a different way of learning. I can honestly say I am now really looking forward to going to University so that I can come back to Cambridge Consultants every year with more knowledge than I had before. The Year in Industry has also made me more independent. I moved away from home and am completely financially independent from my parents. I would recommend The Year in Industry to anyone."

If you would like to read more from Philippa please visit
http://www.scenta.co.uk/careers/general/role_models.cfm?widCall2=widgets.show_role_model_search_3&roleModelID=19107