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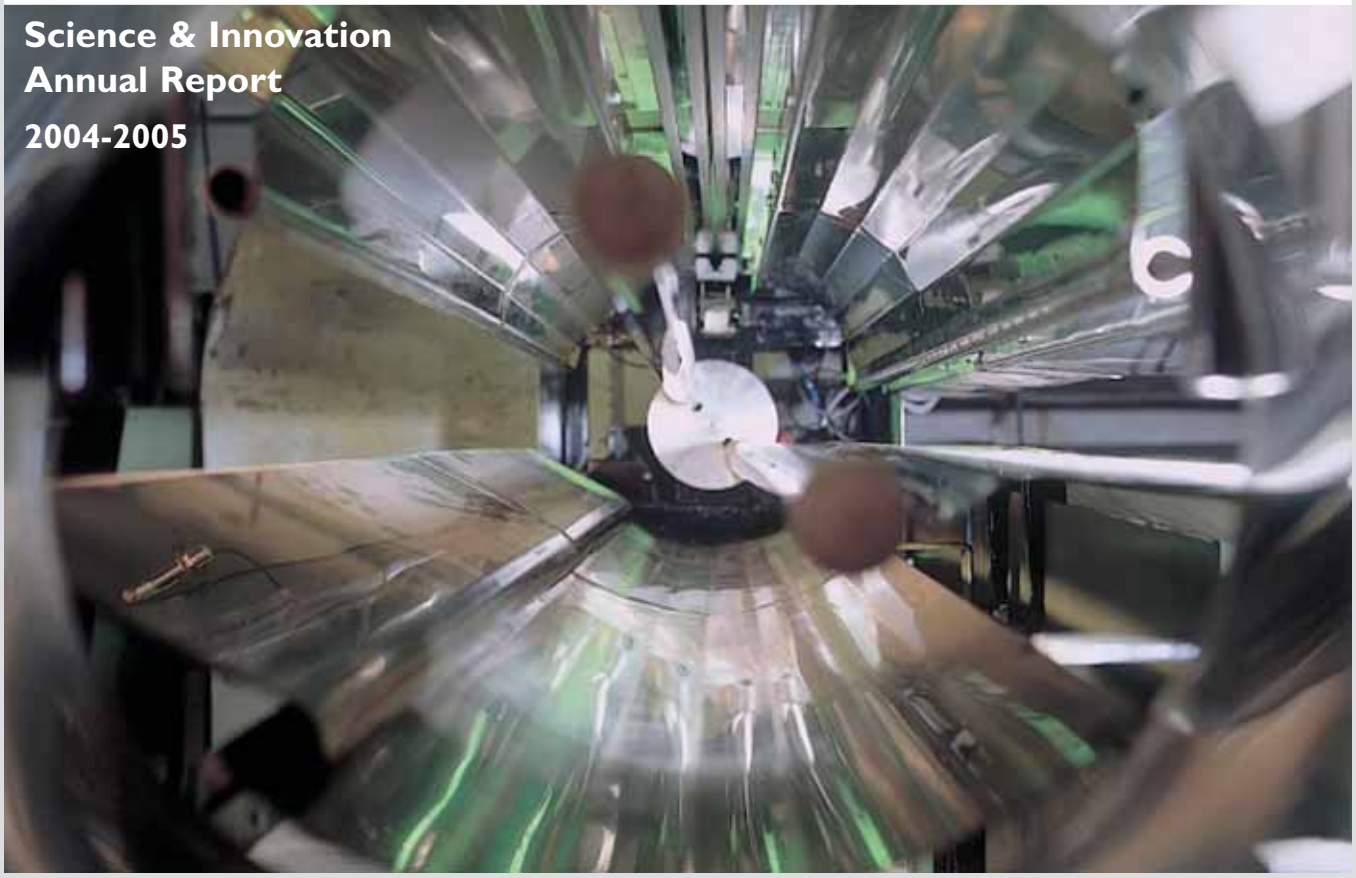
Science & Innovation Annual Report 2004-2005



Science & Innovation
Network

Dr Ian Pearson MP

Foreword
By Dr Ian Pearson MP

Science and innovation are moving up government agendas throughout the world. Science underpins our response to international concerns such as climate change, energy security, infectious diseases, economic governance and sustainable development. It is central to our foreign policy.

This Government is committed to making UK science and innovation among the best in the world. The Foreign and Commonwealth Office (FCO) Science and Innovation Network, which is deployed in a wide range of leading science nations, takes forward our international plans for strengthening UK science. As the Minister responsible for science within the FCO, I will be participating in a new Cabinet committee on Science, Innovation and the Knowledge Economy as part of this process.

In the last year, the FCO has worked on several high-profile international scientific issues. We contributed to an assessment of better ways to integrate science and technology into the UN system in order to predict and respond to natural disasters in the wake of the Indian Ocean tsunami. We helped bring a lively United Nations debate on human reproductive cloning to a satisfactory conclusion that allows the UK to continue with its stem cell research programme. We worked to ensure that science played an important role in delivering Britain's G8 Presidency priorities: climate change, and tackling poverty and governance in Africa.

The Science and Innovation Network works with government departments, businesses and academia, all of whom share an interest in international science. The Network promotes the UK as partner of choice for research and development and inward investment in science and technology. It helps facilitate international trade in the high technology sectors. It adds value to UK science policy, and uses science to underpin international policy.

The Network fosters international research by bringing UK scientists, students and funding bodies together with their counterparts from other countries. Science officers work with their commercial colleagues overseas and Department of Trade and Industry to identify new and emerging technologies and encourage collaboration between businesses. In the last year, with partners including the British Council, we have launched two new campaigns: UK-China Partners in Science (2005) and UK-Singapore Partners in Science (2004). These build on the success of the UK Science & Technology for a New World campaign in North America (page 7).

Britain's excellence in the field of science is a powerful tool for projecting Britain as a creative, dynamic and technologically advanced nation, open and ready for business. This report presents our main activities this year.

"The great challenges for the coming century are ones where global science and international policy need to come together: poverty; climate change; sustainable development; the spread of HIV and Aids; the access to secure and reliable energy supplies which our economies need."

"…the United Kingdom's success, at home and internationally, crucially depends on the success of our science, and on our place in global scientific collaboration."

Jack Straw, Foreign Secretary
Britain's leading role in global science, March 2005

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The Foreign and Commonwealth Office (FCO) Science and Innovation Network includes 44 UK posts in 29 partner countries and territories, most of which have dedicated Science & Technology (S&T) officers (Annex 1, page 81). The Science and Innovation Group (SIG) in London manages the Network and advises on science issues for the FCO. Following an internal reorganisation the Group is now part of Economic Policy Directorate.

Science contributes to the delivery of all the UK's International Strategic Priorities, with particular focus on promoting UK economic interests (Strategic Priority 5).

- A world safer from global terrorism and weapons of mass destruction
- Protection of the UK from illegal immigration, drug trafficking and other international crime
- An international system based on the rule of law, which is better able to resolve disputes and prevent conflicts
- An effective EU in a secure neighbourhood
- **Promotion of UK interests in an open and expanding global economy**
- Sustainable development, underpinned by democracy, good governance and human rights
- Security of UK global energy supplies, including climate change
- Security and good governance of the UK's Overseas Territories

Our work has four main themes:

- **Science Policy** – informing UK developments and securing international influence by drawing on UK science and models of best practice.
- **Science Collaboration** – promoting the UK as the partner of choice and attracting overseas expertise.
- **Science for Wealth Creation** – facilitating trade and inward investment and contributing towards the UK knowledge economy.
- **Science for Public Diplomacy** – projecting the UK as a creative, dynamic, technologically advanced nation.

We work in close partnership with the Office of Science and Technology (OST), Treasury, Department of Trade and Industry (DTI), UK Trade and Investment (UKTI), British Council, Research Councils, Royal Society and other bodies to take forward the UK's science interests overseas.

Science and Innovation Policy

In March 2005, Jack Straw, Foreign Secretary, delivered a speech entitled 'Britain's leading role in global science' at the Royal Society. The speech sent out a powerful message to policy-makers, academics, industrialists and investors about the Government's commitment to science and innovation, and the increasing importance of science to UK foreign policy.

The Network provides Government with an international perspective on UK science policy. The FCO participates in two Whitehall science committees, the Global Science and Innovation Forum (GSIF) and the Chief Scientific Advisers Committee (CSAC). Ian Pearson, Minister of State for Trade, who is responsible for science at the FCO, attends the Cabinet committee on Science, Innovation and the Knowledge Economy.

Network Performance

Heads of Mission (HoM) from 14 Network posts attended a focus group on Science and Strategic Priorities at the FCO Leadership Conference in January 2005. HoMs looked at how to better focus science work according to the strengths and opportunities of their host countries. The event reinforced the importance of science in international relations and gave a fresh mandate to integrate science within UK foreign policy.

Foreign Secretary Jack Straw, Lord May (President of the Royal Society) and Fiona Clouder Richards (Head of Science and Innovation, FCO), March 2005.

The FCO Global Opportunities Fund (GOF) aligns with the FCO Strategy, and now provides an additional resource for science projects. One of the main objectives of the new GOF Economic Governance Programme is to promote science and innovation collaboration by developing and adopting new technologies and forming new alliances with priority emerging markets and developed countries.

Recruitment, Training and Briefing

The recruitment of new S&T officers in Beijing, Shanghai, Osaka, Atlanta, Canberra and Guangzhou completes the planned expansion of the Network. Science and Innovation Group organised comprehensive programmes of calls for each of these staff. In addition, we ran two Briefing Tours for locally engaged officers, and helped with an advanced tour of the North-West and Scotland for officers based in America. Three Regional Conferences also took place throughout the year (see page 6).

"The briefing tour gave me a fresh perspective on our role as a S&T officer. Meeting face to face with the stakeholders gave us a much clearer understanding of their requirements."

S&T officer, June 2004

The Network's intranet, STNet, continues to provide a good way for communicating across the Network. We are improving the briefing material by producing a series of mini briefs that provide a snapshot on hot-science topics. External UK stakeholders now have access to the site.

Customer Relations

A customer survey exercise completed in summer 2004 confirmed that the Network is adding value to the UK's international science work across the main themes. Comments from customers show that the Network continues to:

- Provide comprehensive reporting on science in different countries.
- Provide expert input on policies that could be applied in the UK.
- Be an important component of horizon scanning activities for academics and industry.
- Play a fundamental role in developing and strengthening links overseas.
- Provide excellent support in setting up high-level meetings and bilateral interactions.
- Assist with finding leads and supporting inward investment.
- Provide knowledge of government, people and organisations for planning overseas initiatives.

Europe, London

S&T officers from the European Region met for 3 days in London in September 2004. OST briefed officers on European R&D Policy and the EU Framework Programme (FP). Officers then discussed best practice and UK stakeholder activities, with presentations on the British Council's *ZeroCarbonCity* campaign, Government Climate Change and Energy Policies, the Technology Priorities being taken forward by the DTI Technology Strategy Board, and the expansion of the DTI Global Watch Service.

Officers also attended the Govnet Public Services Summit on Science and Innovation for briefing on the Treasury's 10-year Investment Framework, the Micro and Nanotechnology Network, science and society, and knowledge transfer.

Asia-Pacific, Beijing

The 2-day Asia-Pacific Conference took place in China in December 2004. It provided S&T officers from this dynamic region with an opportunity to discuss ways of forging research collaborations, the UK Government science agenda, foreign policy developments in London, public diplomacy and working with colleagues. The conference also explored ways of achieving a greater synergy across the region.

Asia offers enticing long-term collaboration prospects to UK high-tech companies and research institutions. Officers discussed how to overcome obstacles and evaluate their work in forging science partnerships.

A large amount of public funds has been invested in public diplomacy work in this region over the past 2 years with campaigns such as *Think UK* in China and *Innovation UK* in Japan, and new campaigns beginning in China, Singapore and India. Officers recognised the need for sharper focus when planning routine public diplomacy work and larger campaigns especially when working with the media.

Americas, Florida

S&T officers from the Americas Region met in the US in March 2004 to share best practice, confirm priorities for the new Financial Year, and agree how to approach forthcoming activities. The North America Public Diplomacy Campaign – *'UK S&T for a New World'* – was a major feature of this Conference with discussion on how future public diplomacy work should support S&T priorities. Officers also discussed how encouraging research collaboration with the Americas contributes to UK economic prosperity.

The US continues to lead the world in innovation, science and technology, through federal and state funding and policies that encourage cutting edge research. The S&T officers looked at how they could strengthen co-operation with partners such as UK Trade and Investment (UKTI), the new Public Affairs Team based at the British Embassy in Washington, British Council and British Defence Staff. Discussions focussed on the US S&T Network priority themes for 2005: climate change and energy security, regenerative medicine, the knowledge economy and science for security.

North America – UK Science & Technology for a New World

This was a bold and exciting £1 million initiative in the United States and Canada jointly led and funded by the FCO and the British Council, to promote a modern, dynamic image of the UK among North Americans by highlighting UK S&T advancements. Projects were designed to showcase British innovation and willingness to collaborate in S&T, specifically in the biotechnology, and energy & environment sectors. A marketing communications strategy supplemented events with a website, printed materials, and media outreach intended to create a multiplying effect to maximize impact and reach our target audiences.

The campaign's achievements include:

- People attending events developed a greater appreciation of UK S&T strengths.
- Awareness of collaboration and investment opportunities increased, and a number of potential collaborations and inward investments evolved.
- Students came away with a positive impression of the UK as a place to study and undertake research.
- Coverage of UK S&T innovations and achievements in the US and Canadian media (especially trade press) increased.
- Existing relationships with partner organisations and individuals in the US, Canada and the UK were strengthened, and new collaborations were established.
- Internal communication between the Embassy/High Commission, British Council, UKTI and Consulates-General were strengthened.
- Staff skills in working with the media, event design and management, and marketing improved.

Jack Straw talks about the role of science in foreign policy, Howard University, Washington.

Martin Uden (Consul General), Sir Richard Sykes, Lord Sainsbury and David Chiswell (Chair of the BioIndustry Association) at BIO2004.

Foreign Secretary, Jack Straw, and Colin Powell, former US Secretary of State sharing a moment at Howard University, Washington.

Highlights

Globe 2004, Vancouver, March-April 2004 – The energy and environment theme of this conference provided a good opportunity to promote UK excellence in low carbon buildings. Canadian Prime Minister Paul Martin visited the UK Pavilion to meet David Reddaway, British High Commissioner. The UK presence also included a 1000sq foot UK Pavilion in the exhibit hall, a ministerial discussion on sustainability, a media lunch, and a reception hosted by the Consul-General in Vancouver.

Speech by Foreign Secretary Jack Straw at Howard University, Washington DC, May 2004. The Foreign Secretary's speech *Global Science for our Common Future* promoted UK scientific excellence, and highlighted the need for international collaboration to address global challenges. The Foreign Secretary was introduced by US Secretary of State Colin Powell, who stressed the strong relationship between the UK and the US and their shared strong commitment to science.

BioHouston Commercialisation Symposium, May 2004 – The Houston life sciences community held its second annual *BioHouston Commercialisation Symposium* on 19 May, at the Jones Business School, Rice University. The event attracted over 150 senior attendees.

BIO 2004, San Francisco – The largest ever international biotechnology convention attracted 17,000 participants, including a significant British presence. Visits from UK Science Minister Lord Sainsbury and Rector of Imperial College Sir Richard Sykes generated some significant press coverage. The Campaign Team organised a reception, a seminar to promote British biotechnology, and an Industry Briefing course.

Stem Cell Symposia in San Francisco and Los Angeles – With the passage of Proposition 71 in the US authorising expenditure of $3 billion over the next 10 years and the founding of the California Institute of Regenerative Medicine, these symposia gave the UK a prime opportunity to promote itself as the partner of choice for California in regenerative medicine.

Public Diplomacy Campaigns

UK-China Partners in Science

This public diplomacy initiative to promote collaboration between the UK and China in science and technology was proposed under the China Task Force, and is funded by OST, the FCO, the British Council and private companies. The campaign will include over 100 events organised by the Science and Innovation Network and the British Council around China throughout 2005.

The campaign aims to promote awareness of leading edge British science and technology in China, especially among scientists, technical specialists and science, engineering and technology (SET) officials. It also aims to provide the UK with more detail about China's priorities in science and technology by bringing together research institutions, government organisations responsible for science, and high-tech companies that may benefit from investment in either direction.

As part of the campaign, the British Council is leading a programme of events, such as *Cafés Scientifiques,* to engage a wider audience of educated city-dwellers (aged 16-35).

Highlights

- The programme started in January with Lord Sainsbury, Minister for Science and Innovation, opening the 2-day *UK-China High Tech Forum* for over 300 delegates in Beijing. Participants from UK universities and companies met leading Chinese scientists, technologists and officials in fields such as cancer research, renewable energy, knowledge transfer and venture capital. The number and seniority of delegates from both countries signalled a step change in UK-China science and technology relations, and prompted China's highest circulation English language newspaper the China Daily to declare that "Britain, China unite in hi-tech research" and that "energy, electronics, stem cell studies, space and aviation sciences are major fields for scientific co-operation between China and the United Kingdom".

- In Shanghai and Chongqing, British Consulates launched the campaign with the signing of a Memorandum of Understanding to strengthen scientific relations between the UK and these regions of China.

- In March, events throughout China included workshops on food-borne pathogens, nanotechnology, automotive design engineering, biotechnology business, and intelligent transport systems.

- Other events in March included a visit from a UK delegation of flood control experts from the Foresight Programme, and a seminar on science journalism to mark a visit from the Association of British Science Writers, hosted by the Chinese Society for Science and Technology Journalism.

Future events include a conference on climate change, and workshops on plant conservation, hydrogen energy and renewable resources, cancer research, e-science and sustainable development.

More information on *UK-China Partners in Science* is available from the website (www.uk.cn/science).

Public Diplomacy Campaigns

UK-Singapore Partners in Science

This initiative aims to promote UK science, engineering and technology and increase collaboration with Singapore. The campaign has been launched against a drive by Singapore to improve collaborative research with other countries, and a need to increase the number of Singaporean students studying in the UK, and change Singaporean perceptions about the UK, especially in the fields of science and invention.

Partnership

The majority of Singaporeans believe that the image of a country is an important factor in deciding whether to partner with that country. The High Commission's strategy is to position the UK as "modern, creative, relevant and successful", with the UK as Singapore's partner of choice for international scientific collaboration. The campaign is working with a wide range of partners, including British Council, UKTI, British Chamber of Commerce, British companies, universities, polytechnics, the Singaporean Agency for Science, Technology and Research (A*STAR), professional institutions and the Singapore Science Centre. The programme of events is mainly aimed at students, the successor generation (18-35 year olds), researchers and policy makers.

Royal Launch

HRH Prince Andrew, Duke of York, launched the campaign on 26 November 2004 at Biopolis – Singapore's state of the art biomedical science centre. The launch included the opening of a GSK research laboratory and British High Commission S&T office, an exhibition by UK companies and a 4-page supplement in the Straits Times. The launch generated wide publicity, including major items on TV news channels.

Feedback from the launch showed that 68% of invitees were now more likely to do business with, invest in or study in the UK.

Minister Heng, Prince Andrew, Duke of York, and the British High Commissioner launching the UK-Singapore Partners in Science Year, November 2004.

Science stars, workshops and exhibitions

A key component of the campaign is the *Science Stars* programme – a range of lectures, *Café Scientifiques* and press interviews led by leading UK scientists. Our first *Science Star* was Dr Mike Howse, Rolls-Royce Director of Engineering and Technology, and leader of the team that developed the Trent jet engine. Dick Olver, Chairman of BAE Systems, gave the inaugural *UK-Singapore Partners in Science Distinguished Visitor Lecture* "From Invention to Innovation". Professor Colin Blakemore, Chief Executive of the Medical Research Council (MRC), lectured on "The Plastic Brain".

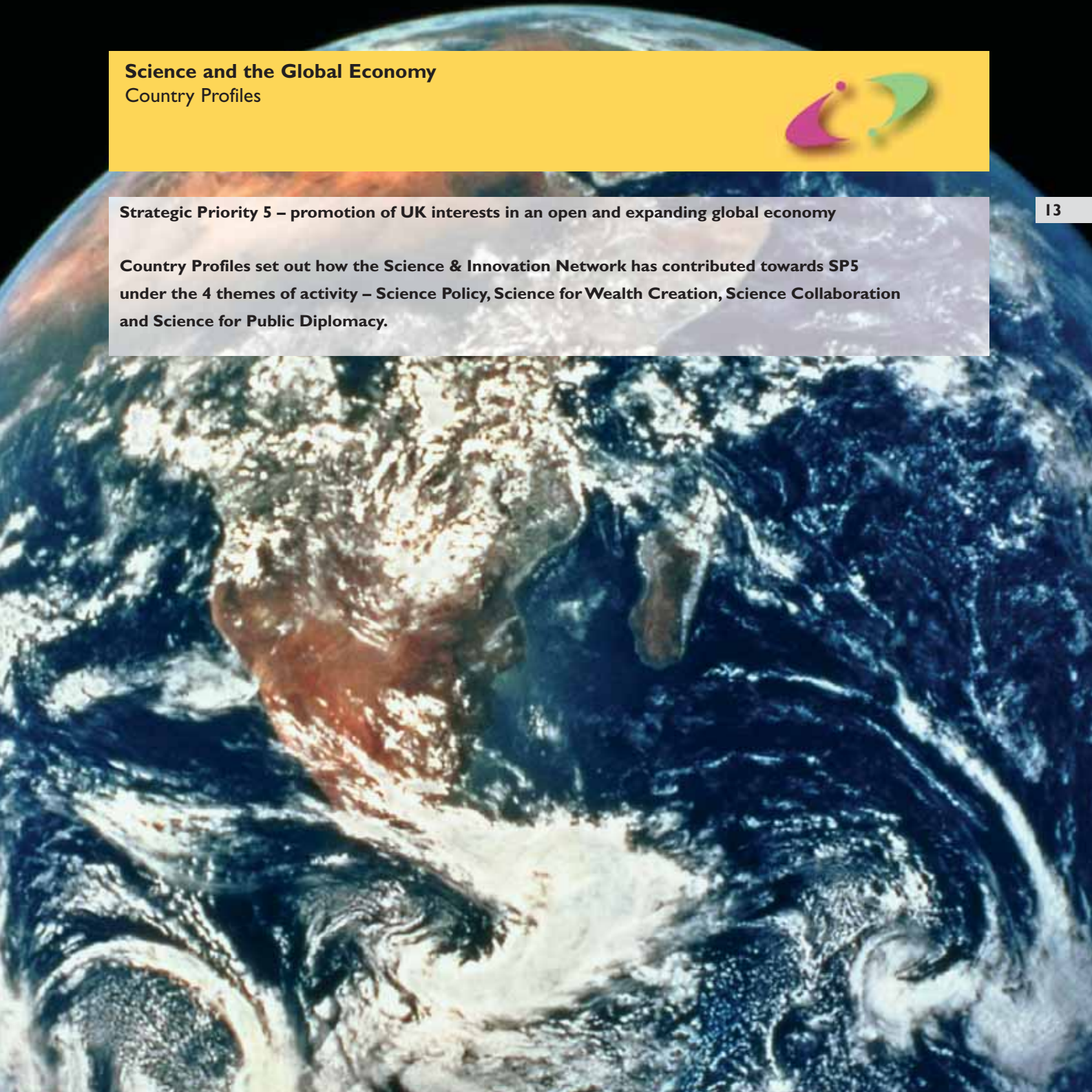
The workshop series is a vital element of the initiative, bringing together researchers to exchange views on the latest scientific developments and to promote new collaborations. A chemistry workshop *"New Challenges for Synthesis for Pharmaceutical Products"* was jointly arranged with A*STAR and the Royal Society of Chemistry and was led by RSC President Dr Simon Campbell. Feedback was excellent and a number of new collaborations have been initiated as a result of the workshop.

The campaign also includes a series of exhibitions to showcase the latest developments in UK S&T. *Science on the Plaza* was enjoyed by over 2,500 visitors who came to hear the Institute of Electrical Engineers (IEE) *Faraday Lecture* – the first time it has been delivered abroad. Sports science features in an exhibition to accompany presentations by Dr Steve Haake, Sheffield University, at the launch of Engineers Year in Singapore.

Science on the Plaza Exhibition.

Strategic Priority 5 – promotion of UK interests in an open and expanding global economy

Country Profiles set out how the Science & Innovation Network has contributed towards SP5 under the 4 themes of activity – Science Policy, Science for Wealth Creation, Science Collaboration and Science for Public Diplomacy.



Brazil
São Paulo

Country Profile

The Brazilian government has taken important science policy decisions in the past year. These include the approval of limited scientific research and therapy using embryonic stem cells and the cultivation and sale of GM crops. This indicates an awakened interest within government in scientific research.

Biotechnology continues to grow in this country, which has the largest bio-diversity on the planet. Another area of increasing importance is biofuels, where Brazil has been a front-runner since the 1970's. UKTI colleagues are looking at areas of possible co-operation between UK and Brazilian scientists in this sector. Brazil is a world leader in agribusiness research – Brazilian scientists sequenced the coffee genome in 2004. This country also excels in cancer genome research. A satellite programme, developed with China, has allowed Brazil to enter the market of satellite imaging.

Science Policy

UN discussions on human cloning prompted lobbying of the Brazilian government to secure support for the UK's position in favour of therapeutic cloning, or at least for them to adopt a neutral position. As Brazil was discussing stem cell research in Congress, the government was at first reluctant to commit itself internationally. Active lobbying by the Embassy led to Brazil's support for the UK position.

Science for Wealth Creation

Biodiesel is raising interest in commercial and R&D sectors. Brazil has increased production of this clean source of energy and recently passed a law allowing the addition of 2% biodiesel to conventional fuel. As a result, we commissioned a mapping exercise with the UKTI sector manager for energy to review the status of biofuels in Brazil to provide a clearer idea of commercial and scientific opportunities for the UK.

Together with the UKTI sector manager for Information and Communications Technology (ICT), we are organising a visit to the UK from the university spin-off CESAR, a non-profit centre for information technology, research, development, and innovation in ICT. The aim of the visit is to establish R&D links, and set up partnerships for developing technologies and products.

Science Collaboration

Our work often involves responding to requests for information in areas where Brazil adds value. During the last year, our reactive reports covered plant genomics for the European Research Area, surplus human tissue, use of pesticides, space science and cancer genetics. Proactive reporting covered Brazilian science policy issues and events, such as the sequencing of the coffee plant and subsequent creation of a gene database.

In January 2004, the European Community and Brazil signed a scientific and technological co-operation agreement. Since then, Brazilian institutions such as FINEP (Innovation Agency) and the Ministry for Science and Technology, in partnership with the European Commission office in Brazil, have hosted a series of events to promote multilateral research partnerships. We have monitored these, looking out for opportunities involving Brazil and the UK.

In June 2004, the UK Embassy in Brazil invited Dr Sergio Rezende, president of FINEP, to spend 3 days in Cambridge and London visiting university research centres and agencies working to transfer technology to firms and innovation to business.

As a result of the visit, FINEP is now exploring specific areas of co-operation with the DTI.

Science for Public Diplomacy

In June 2004, Sir John Sulston, leader of the UK part of the Human Genome Project, visited Brazil. He gave a presentation on the ethical issues linked with genomics. This was followed by a debate with two leading Brazilians, which attracted significant and positive press coverage, given the Brazilian debate on regulation of stem cell research and therapeutic cloning.

In April 2005 we took part in the *4th Science Centre World Congress*, in collaboration with the British Council.

We produced a joint folder on science partnerships between the UK and Brazil, hosted a UK information booth with computer access to *Culture Lab*, and sponsored four UK speakers. It was our first participation in a big public diplomacy event.

Sir John Sulston (Nobel Prize Laureate 2002) visited Brazil in June 2004, and gave a lecture entitled "Genome: Ethics and Intellectual Property in Research" at the Brazilian British Centre in São Paulo.

Canada
Ottawa

Country Profile

Despite uncertainty about Federal S&T funding in 2004, with an increased focus on commercial results, the February 2005 budget brought modest increases to research council funding and investments in science facilities; a sustainable energy S&T strategy, and the new Canadian Academies of Science. 2004 also saw the official opening of the Canadian Light Source synchrotron in Saskatoon, a major facility for Canada. The National Science Adviser's role continues to develop, and there is continued focus on science for development. It is hard to predict longer term Federal S&T policy because of uncertainties around the current minority government.

Science Policy

The S&T team for Canada, based in Ottawa, continues to report on Canadian science policy, from innovation to stem cells and cloning, on funding decisions and other major developments. Our monthly newsletter on S&T in Canada reaches over 150 people in the UK, with a larger on-line audience.

We have successfully lobbied the Canadian authorities on their stance to the UN political declaration on human cloning. We have also been closely involved on policy issues including climate change, energy technologies and innovation.

The high profile visit by Lord May (President of the Royal Society) in April 2004 was an excellent lever for promoting UK S&T and potential joint work across Canada. We used his visit to network with high-level people in science policy and funding in Canada, reinforcing the UK's strong reputation.

We played an active role in the European Commission's plans for a Canada-EU S&T co-operation office to be based in Ottawa. We have also reported on Canadian action on the development of early warning systems for natural disasters such as tsunamis.

Science for Wealth Creation

Major events contributing towards our wealth creation activities this year included seminars in Toronto and Vancouver on Technology Commercialisation. With a delegation of over 20 heads of technology transfer from UK universities, Research Councils and other organisations, these events were an opportunity for UK delegates to share with, and learn good practice from, Canadian counterparts in areas such as metrics, technology transfer training, and the creation of entrepreneurial environments. Outcomes include UK-Canada links on commercialisation software,

as well as a proposal for including an international component in the DTI's Knowledge Transfer Partnerships scheme.

By supporting Global Watch missions, including a scoping mission on bio-energy, we have prepared the ground for potential future joint work, and also gained a deeper understanding of Canadian policies and strategies. We work in partnership with UKTI Canada by liaising on business plans and events, calls, visits, missions and industry contacts.

Science Collaboration

Focusing on the infrastructure and access that need to underpin scientific collaboration, the S&T team organised a UK-Canada seminar on Arctic science planning and logistics. The seminar brought together researchers, funders and government representatives from the UK with their Canadian counterparts, including representatives from northern communities. Participants discussed sharing infrastructure and equipment (including ships and planes), the capacity of Canada's Northern research stations, potential International Polar Year (IPY) projects, and student and researcher mobility. Outcomes have included further discussions on joint UK-Canada IPY projects, sharing research vessels, and co-ordinating information on the availability and capability of Canadian northern research stations.

Discussions are under way on student exchanges.

The S&T team continues to bid for post funds to sponsor visits of selected scientists to and from the UK, and to undertake visits and tours of Canada's research facilities to keep up with Canadian developments. Working in partnership with the Ontario Government, the team facilitated a visit by high-profile UK stem cell researcher Dr Roger Pedersen to McMaster University in Hamilton, Canada, from which future collaborations may emerge.

A visit from Professor David Fisk, Chief Scientific Adviser to the UK Office of the Deputy Prime Minister, also helped to strengthen potential areas for UK-Canada collaboration.

Science for Public Diplomacy

Alongside the North America campaign *'UK Science & Technology for a New World'* (page 7), we have maintained a high profile for UK S&T in Canada via a number of events. These include presentations to large audiences by speakers such as Lord May, who gave public lectures, including the Royal Society of Canada's *Rutherford Memorial Lecture*, on biodiversity and infectious diseases. The British High Commissioner to Canada, David Reddaway, used the grand opening of the Canadian Light Source to publicise 'Big Science' in the UK, the UK's commitment to science, and the opportunities that come from large science facilities such as Diamond.

The first WISET (Women in Science Engineering and Technology) exchange between the UK and Canada was completed with Ruth Graham from Imperial College visiting Canada in May 2004, following on from Elizabeth Cannon's visit to the UK from the University of Calgary. The scheme enables female scientists in their early-mid stage career to lecture, network, and act as role models for younger scientists at an international level. Plans for future visits are developing, and Ruth Graham is exploring ways of introducing to Canada a UK scheme to encourage young girls into science.

Working in partnership with our Media Section and Ottawa's Environment Attaché, we have had significant coverage of UK S&T and UK S&T policies in the Canadian national press. By facilitating the visit of a Toronto Star reporter to a Hadley Centre conference on avoiding dangerous climate change in the UK, we helped to get three science articles published in the Star. We also placed articles by our High Commissioner and Margaret Beckett in the National Post and the Globe and Mail on UK and G8 climate change policies.

United States

Washington DC, Atlanta, Boston, Houston, Los Angeles, San Francisco

Country Profile

The United States remains the science and technology powerhouse of the global economy. The US federal government alone has the highest level of R&D investment in the world, at $132bn for this Financial Year. US private sector spending is even greater than this, while the 50 states – several of which rank among the world's largest economies – have their own S&T programmes. The UK therefore has a major interest in securing access to S&T collaboration with the US, learning from its best practice and remaining S&T partner of choice for Americans. Moreover, whatever the US chooses to fund in terms of basic research is likely to emerge most quickly into the markets.

Foreign Secretary visits the Material Sciences Centre for Excellence at Howard University.

In line with wider US policy priorities, federal S&T budgets are increasingly focussed on national security, especially the 'homeland security' of the US itself. The UK is well placed to contribute to that focus, given its own experience of counter-terrorism and the world-class technologies that it has pioneered. In December 2004, we worked to ensure that the first US Agreement on S&T collaboration on homeland security was with the UK. This created a formal basis for even closer working relations, between UK and US laboratories, and between UK universities and Department of Homeland Security centres of excellence.

US federal policy on key S&T topics influences global debates, from stem cell research to the impact of and responses to climate change. These policies create challenges and opportunities, to which individual US states are often swift to respond with their own policies. For that reason, the UK's S&T Network in the US expands well beyond Washington DC, to engage in discussions with state governments and high-tech clusters 'beyond the Beltway'.

Science Policy

In May 2004, Washington S&T team raised the profile of UK's Ministerial commitment to global science, with a preview of the UK's 10-Year Investment Strategy for Science and Innovation from Paul Boateng, Chief Secretary to the Treasury.

In February 2005, the Atlanta S&T officer co-ordinated a meeting between Sir Michael Rawlins, Chairman of the UK National Institute for Clinical Excellence and Health Development Agency, and officers of the US Centers for Disease Control (CDC). This proved to be a productive meeting, which could see the UK implementing CDC findings and better co-ordinated studies on human behavioural health issues.

Boston S&T team organised a number of visit programmes to expose UK policy makers and practitioners to US leaders in innovation. Events included: a programme for the Treasury productivity team on regional competitiveness, industrial performance and entrepreneurial culture; visits for the Birmingham science park development team, to introduce them to examples of support for early stage technology companies; a programme to enhance enterprise teaching, business creation, knowledge transfer and foster industry links for the UK Northwest science enterprise centre.

In April 2004, the San Francisco S&T team produced a detailed report on Personalised Medicine in the US, covering regulation, policy, academic research and private sector activity in pharmacogenomics and gene therapy. UK stakeholders, including the Royal Society, Imperial College, the Scottish Centre for Genomic Technology and Informatics, and the Department of Health's Human Genetics Commission, used the report to inform their policies.

Science for Wealth Creation

Boston and Ottawa S&T teams organised a forum to bring the best minds in universities together with experts in industry technology transfer from the UK, Canada and the US. Participants discussed opportunities, challenges, and best practice in aspects of technology commercialisation, including regional and international collaborations, early stage company support, and outputs and metrics. The one-day seminars were held in Boston and promoted a positive image of UK capabilities. A number of relationships have flourished as a result, and the Boston team is supporting a staff secondment from Children's Hospital in Boston to the NHS Innovation hubs.

The S&T team supported 5 DTI Global Watch and UKTI trade missions to the San Francisco Bay Area this year, focussing on point of care diagnostics, food processing technologies, energy storage, user-centred technology design and renewable energy technologies. These missions have led to new collaborations, including a US company setting up a London office as a result of hearing about UK opportunities for user-centred technology design.

In June 2004, Lord Sainsbury and Sir Richard Sykes visited San Francisco to attend *BIO2004*. The S&T team secured their participation and arranged their programmes. Their presence raised the public profile of the UK company delegates– who made up the second biggest national contingent after the US.

Science Collaboration

Boston S&T team worked with UKTI on a seminar about applying mobile communications technology to healthcare (M-health). This was hosted by Kingston University in conjunction with Partners Healthcare of Boston, and brought together UK and US technology and healthcare policy makers. The team also supported 2 DTI Global Watch missions to the region. The first focussed on advances in technologies for storing electrochemical energy and the second on best practice in harvesting, processing, storing and transporting timber for fuel, for using forestry biomass as a cost-effective energy source in the UK.

Houston S&T team introduced Professor Colin McGuckin (Kingston University, UK) to the NASA-Johnson Space Center Biomedical group. This led to a DTI-funded sabbatical with a $1M grant from NASA on the effects of radiation on adult stem cells, to explore ways of protecting astronauts from space radiation in preparation for the manned mission to Mars in 2020.

In December 2004, San Francisco and Los Angeles S&T teams organised two UK/California Stem Cell Research symposia with Dame Julia Polak of Imperial College to bring UK and California scientists and researchers together. This has already led to a new collaboration, with Dr Julie Saba, a senior scientist from the Children's Hospital Oakland Research Institute spending a sabbatical in Dame Julia's London

laboratory. The California teams have been regularly reporting on the new California Institute for Regenerative Medicine (CIRM), positioning the UK as the Institute's partner of choice, and discussing future opportunities for CIRM and UK research funders to collaborate.

Science for Public Diplomacy

During 2004-05, the North American S&T Network implemented a year-long public diplomacy campaign to raise the profile of the UK's S&T strengths in the US and Canada (page 7).

Our largest public diplomacy effort in the US fell in February, when the Embassy launched Science Week with Professor Stephen Hawking receiving a medal from the Smithsonian Institute, and ended it with a major presence at the *American Association for the Advancement of Science Conference*, with a session on women in science. We invited prominent women scientists to give plenary and topical lectures, led a workshop on how women's roles in science have evolved, and hosted a reception honouring women in science, attended by key members of the US science and policy community. An accompanying pavilion featuring the work of five prestigious UK universities raised the profile of UK science and promoted overseas enrolment.

Stephen Hawking receiving the Smithsonian award, February 2005.

Science Policy

The UK and Australia have similar research priorities, with both countries focussing on nanotechnology, biotechnology and climate change. While science policy in these areas is similar, Australia is currently reviewing its stem cell legislation and is starting to look beyond the Kyoto agreement on climate change. Any changes to Australian stem cell legislation may impact current and future Anglo-Australian collaborations. Australia recently supported the UN proposal to ban therapeutic cloning, while the UK opposed the proposal.

Science for Wealth Creation

Australia is very focussed on the commercialisation of science, particularly in emerging areas, such as stem cells and nanotechnology. Talks are under way with the Victorian Government in Australia and DTI to run joint stem cell workshops for exploring the commercial aspects of research.

Science Collaboration

Australia and the UK have a long history of successful collaboration in science and technology. Many of these operate between individuals, often without formal agreements involving institutions. The Australian Academy of Science has strong links with the Royal Society and both fund research exchanges, with three Australian scientists visiting the UK during 2004-05.

Collaboration has been further enhanced by a visit, supported by the Australian Department of Education, Science and Training, from six of Australia's leading bionanotechnology researchers, to promote the sharing of knowledge and expertise.

Science for Public Diplomacy

Late 2004 was an important time for relations between the UK and Australia. Lord Sainsbury's visit in November emphasised areas of research that both countries could address collaboratively. Lord Sainsbury met key figures in Australian science policy, including the Chief Scientist and the Federal Minister for Science. These meetings explored the possibility of collaborating on stem cell science and organising workshops for scientists from both countries.

Lord Sainsbury stated that his office is keen to support networking and collaborative ventures between Australian and UK based scientists, as traditional funding grants do not often cover such activities. The Australian Government sees the UK as a priority country and is willing to support these activities through its International-Linkage programme.

The British High Commission met with the New South Wales Ministry for Science and Medical Research and identified several areas of potential collaboration, including stem cell science, nanotechnology, climate change and water research.

China

Beijing, Shanghai, Chongqing, Guangzhou

Country Profile

China continues to achieve high growth rates, with a 9.4% increase in GDP in 2004, mainly based on income from an increasingly sophisticated range of exports. This is likely to continue for the foreseeable future. In 2003 (the latest year for which figures are available) China spent approximately £102 billion on research and development, representing 1.35% of GDP. It is aiming for a 2% spend by the end of the decade. China's '2020' Medium to Long-term Plan for Science and Technology is due to be published in late 2005.

Science Policy

In 2004-05 several issues have dominated the policy agenda for the Network's operation in China. Ongoing international discussions on stem cell research prompted further lobbying to secure the Chinese government's support in the vote against the UN political declaration on human cloning. China supported the UK position in favour of therapeutic cloning.

Discussions on the International Thermonuclear Experimental Reactor (ITER) nuclear fusion project took place with China, the EU Mission and EU country representatives.

Visits by Chief Scientist Sir David King (July 2004) and Science Minister, Lord Sainsbury (January 2005) enabled high-level discussion of common policy concerns, and the signing of an Memorandum of Understanding (MOU) on co-operation in space research. The Science & Innovation (S&I) section organised a fruitful discussion on long-term science planning and possibilities for cooperation between Sir David King and the Ministry of Science and Technology (MOST) Vice Minister, Secretary General, and other senior officials.

The section continues to co-operate closely with the Embassy's First Secretary Environment in promoting the Government's climate change priority.

S&I staff in Beijing are working with the DTI's Foresight office and the Health Protection Agency to ensure the smooth running of a major UK Foresight study on how patterns and risks of emerging infectious diseases might change over the next two decades. The involvement of Chinese experts is crucial because of China's recent experiences with SARS and avian flu.

Science for Wealth Creation

S&I staff in China research developments in science and technology with commercial application of interest to UK companies. They routinely brief visiting UK company representatives on the state of research in particular fields, and help them to make contact with Chinese counterparts.

S&I staff assist missions from the DTI's Global Watch Service, which identifies new technology opportunities for high-tech UK companies. The S&I section in Beijing is the Embassy lead for developing Chinese science park incubators in the UK (Cambridge and Manchester), negotiating with MOST on incubator

Lord Sainsbury (Minister for Science and Innovation) and Dr Sun Laiyan (Administrator for the Chinese National Space Administration) sign a Memorandum of Understanding between the UK and China concerning civil space activities, January 2005.

administration, and encouraging investment from Chinese high-tech companies in the two partner cities (Guangzhou and Wuhan).

The S&I section has been active in establishing a UK-China Working Party on Venture Capital. UK Chancellor Gordon Brown attended its first meeting in Beijing (February 2004).

Science Collaboration

During the last decade, there have been over one thousand research links and exchanges between the UK and China, at the level of individual scientists, research institutions, funding councils and national academies. The China S&I network is now working to map these links.

In the last year, China has hosted visits from four UK Research Council Chief Executives; scientists from over 20 UK universities have come to China to establish or continue joint research programmes. Notable achievements include: an MOU between Southampton University and the University of Qingdao on oceanography; preliminary discussions on medical ethics between the MRC and Chinese counterparts; and a research collaboration between DTI Foresight and the Ministries of Science and Technology, and Water Resources in flood control and prevention.

The Royal Society has continued to fund a range of projects in China. The Commonwealth Agricultural Bureaux International (CABI) held its first annual meeting outside London in Beijing in 2004 on the theme of agricultural technology, with sponsorship from the Embassy's S&I section.

India
New Delhi, Bangalore

Country Profile

India has made significant progress in emerging areas of science, including biotechnology, space, nuclear and information technologies. The 24% rise in its recent science budget indicates the importance that India places on R&D.

Substantial funding for biotech research, significant commercial interest, the creation of a new national stem cell research task force and a new draft biotechnology policy, have all ensured robust growth of this sector. The space programme boasts a varied fleet of satellites and indigenous launch capability. India's large scientific and technical manpower combined with widespread use of English is gradually turning the country into a global hub of R&D.

Science Policy

Sir David King met key S&T government officials and scientists and lectured on sustainable development and climate change during his visit to India in February

The EPSRC team with Indian and UK scientists at the Life Science Interface Workshop, Indian Institute of Science Bangalore, January 2005.

2005. His meetings with the Science Minister, the Chief Scientific Adviser and the Chairman of Indian Space Research Organisation (ISRO) led to constructive ideas on how bilateral relations could be strengthened.

Professor Dame Julia Higgins, Vice President of the Royal Society, visited India's premier research institutions to explore possible collaborations and to be briefed by ISRO Chairman on India's remote sensing satellite dedicated to education programmes, Edusat. These meetings generated a follow up visit by a team from Imperial College to the Indian Institute of Technology (IIT) in Delhi to discuss how they could establish links.

The S&I team conducted a number of lobbying exercises to support the UK's global science agenda, for example, during the UN human cloning debate.

Science for Wealth Creation

UK Innovation – ICT Week was sponsored by UKTI and held in January 2005. Speakers from industry, research institutions and government exchanged information on wireless technology and e-Government. Twenty British wireless technology and computer software companies attended from the UK. The S&I team supported the science strand by inviting Professor Gerard Parr, University of Ulster, who met senior telecomm officials from C-DOT (the government telecom technology centre) to discuss policy, two ICT companies in Bangalore, and India's leading telecommunications scientist, Professor Ashok Jhunjhunwala, IIT Madras. The S&I team is following up on a possible UK/India telecommunications advisory network and possible commercial and research partnerships.

Bangalore Bio 2005 is South Asia's largest biotechnology industry trade show. UKTI is sponsoring a 10-member trade mission and the Inward Investment Group is hosting the CEO Conclave. The S&I team has invited Professor Alison Murdoch, Newcastle Centre for Life, to speak on 'The UK's leading role in stem cell research and policy'.

The Indo-UK Joint Economic and Trade Committee (JETCO) was formed earlier this year as a consequence of the UK-India Prime Ministers' Joint Declaration signed in September 2004. Recommendations for work under the Committee include closer co-operation in high technology areas such as ICT, aerospace, biotechnology and other cutting-edge commercial technologies.

Science Collaboration

Three members of the British Tissue Engineering Network (BRITENet) visited Delhi and Bangalore in November 2004 to meet the Indian Council for Medical Research and research laboratories to develop links in regenerative medicine. The S&I team facilitated their programme, which

included public lectures to highlight the UK's expertise in this field.

Two workshops and 38 individual visits were held under the umbrella of the bilateral Joint Networking Scheme. The workshop on using biomarkers to protect humans and the environment was held at Banaras Hindu University in Varanasi. *The Industrial Mathematics workshop* was held at IIT Bombay, and proposed that a permanent Indo-UK Industrial Mathematics Centre be set up there.

British and Indian space programmes both focus on applications that benefit civil society. To date there has been little bilateral activity in this area, and the S&I team worked to build a rapport with ISRO during 2004-05. Earth Observation is an area in which the two countries have complementary strengths and a scoping mission was organised. Professor Alan O'Neill, Director of the Data Assimilation Research Centre at the University of Reading, visited the Space Applications Centre in Western India in December 2005. He was impressed by the extent of integration of the Indian earth observation programme and the

Sir Michael Arthur (British High Commissioner) and Sarah Bamber (First Secretary, Science & Innovation) at the Stem Cell Workshop press conference.

tremendous potential for collaboration in this area, in both the basic science and in applications.

An Engineering and Physical Sciences Research Council (EPSRC) *Life Sciences Interface workshop* was held in Bangalore in January 2005, organised by the S&I team in co-ordination with EPSRC and the Indian Institute of Science (IISc). The workshop is part of the portfolio of activities conducted by EPSRC to facilitate the engagement of physicists and engineers with the life sciences.

Lord Professor Julian Hunt visited India in March 2005 on a British Council visit programme. The S&I team organised meetings for Lord Hunt with ISRO, where he discussed a possible partnership on urban short-term atmospheric pollution forecasts.

Sir Michael Arthur, British High Commissioner to India, inaugurated an *Indo-UK Stem Cell workshop* attended by 20 leading British and Indian stem cell researchers. The week-long event included lectures, practical sessions on handling mouse and human embryonic stem cells and discussions on the future of stem cell research, stem cell therapies and the ethics of conducting such research. The workshop was organised by the S&I team, the Royal Society and two leading institutes in Bangalore.

Science for Public Diplomacy

The S&I team worked closely with the British High Commission's Press and Public Affairs Department to secure publicity for events and visits – in particular Sir David King's Climate Change lecture in Bangalore and the *Indo-UK Stem Cell workshop*. The S&I team arranged for five Indian science journalists to visit the UK during November which resulted in good coverage of British science in the Indian press.

Japan
Tokyo

Country profile

Japan is the second largest investor in R&D in the world, after the US. In 2003, total R&D spending in Japan was about £90 billion or 3.35% of GDP (compared with 1.9% in the UK), of which around 80% was business spending. Priority fields within Government science and technology budgets are life sciences, information and communications, environment and nanotechnology/materials.

Science Policy

We seek to work in partnership with Japan on science policy issues of world-wide concern. Lord Sainsbury, Lord May (President of the Royal Society) and Professor Ian Halliday (Chief Executive, Particle Physics and Astronomy Research Council) visited Japan in November 2004 to take part in the first "Science and Technology in Society" forum, aimed to stimulate international debate on these challenges.

During the year, Japanese policy on stem cell research moved closer to ours, and we worked closely with the Japanese Government during the UN debate on human cloning. Lord May gave a seminar on infectious diseases in Tokyo in November 2004, and the UK was subsequently invited to take part in a joint Japan-US workshop on mathematical modelling of disease transmission. Further UK-Japan exchanges are now planned.

A meeting between nanotechnology experts initiated by the Embassy in February 2005 agreed two workshops on the possible impact of nanotechnology on health and environment should be held under the auspices of the Royal Society and the Science Council of Japan. The first took place in London in July 2005.

In addition, advanced rail technology was the focus of a visit by 6 Members of Parliament from the House of Commons Transport Select Committee. The visit included a test ride on Japan's prototype levitating Maglev Shinkansen, the world's fastest train.

The team reported regularly on Japanese R&D budgets and priorities, hot technology areas in Japan (e.g. grid computing, the biotech sector) and issues of public policy interest (e.g. AIDS, stem cell research). Monthly updates on Japanese technology developments went to over 300 subscribers and attracted a range of follow-up queries. We also provided briefing on energy efficiency measures in Japan for the House of Lords Science and Technology Select Committee.

Science for Wealth Creation

The team helps UK companies to access and benchmark Japanese technology through organising DTI-funded Global Watch missions. During 2004-05, we worked closely with Global Watch's

International Technology Promoters (ITPs) to organise 7 missions looking at Japanese innovation in the following areas:

- Fuel cells
- Structural genomics
- Industrial bioprocessing
- "Smart" interactive textiles
- Small-scale semiconductor production technologies ("minifabs")
- Technologies promoting the independence of older people
- Global navigation and satellite systems.

These missions enabled nearly 50 UK companies or universities to tap into the expertise of more than 70 Japanese companies and research institutes, and to establish commercial contacts between UK and Japanese companies.

The team continued to work closely with UKTI to assist the research-based UK high tech company sector and promote the benefits of the UK as an R&D partner to Japanese companies. In collaboration with UKTI, we gave seminars on the strengths of the UK R&D base to Japanese companies in Kyoto and Hiroshima, generating considerable press coverage; and gave customised presentations to 20 major R&D intensive Japanese companies, providing details of relevant UK centres of excellence. We jointly published a brochure about UK R&D capabilities and used case studies to show how Japanese companies are successfully interacting with the UK research base.

We also worked closely with UKTI to highlight UK strengths in two emerging technologies offering opportunities for research collaboration, trade and investment. At *BioJapan 2004*, we showcased British excellence in regenerative medicine and structure-based drug design to a 200-strong audience from Japanese industry. British speakers included Dr Melanie Lee of Celltech and Professor Roger Pedersen of Cambridge University's newly opened Stem Cell Institute. At *Nanotech 2005*, we staged a similar seminar focussing on nanomaterials and devices and bionanotechnology. The 5 UK speakers included Professors Mark Welland and John Ryan, the heads of the UK's two nanotechnology-related Interdisciplinary Research Collaborations.

Positive outcomes during the year included two major Japanese investments in the nanotechnology field, where the Embassy has been fostering contacts for some time. The Japanese Science and Technology Agency agreed to commit £3m over 5 years to support Japan/UK research exchanges activities; and Oxford University and NTT Europe announced a joint research initiative.

Science Collaboration

The team seeks to promote research partnerships between the UK and Japan in areas of joint priority, where the UK can take advantage of synergies with well-funded Japanese centres

of excellence. We do this by supporting workshops that bring together leading experts from the two sides, and by funding researchers to travel between the UK and Japan to visit sister laboratories, exchange ideas and develop proposals for collaborative research. This work was given a boost in 2003 when the UK and Japanese Prime Ministers agreed to step up bilateral collaboration on new and emerging technologies.

One important focus of work in 2004-05 was climate change, energy and sustainability. In 2003, the FCO Global Opportunities Fund injected £600,000 for a 3-year programme to boost UK-Japan collaboration in these areas. This work is directly relevant to the UK's climate change agenda during its G8 Presidency.

The flagship of the programme is a major collaboration on climate change modelling (page 76). Other projects include alternative energy sources, sustainability and the built environment, green chemistry, and flooding and coastal defences.

In the biosciences field, we supported a workshop in Oxford on gene therapy, which identified scope for collaboration in a number of areas, for example cancer gene therapy and RNA therapy. The third annual bilateral rail cooperation meeting was held in Japan, with a focus on possible future research collaboration on rail technology.

Science for Public Diplomacy

The team organised a series of seminars involving leading British scientists to project excellence in UK R&D to Japanese opinion formers in government, industry and academia. Speakers in 2004-05 included Nobel Prize winner Anthony Leggett and Lord May. Topics included fuel cells, bioprocessing, cancer-related clinical trials, tissue engineering, drug discovery and regenerative medicine and stem cells.

The team also produced a series of six articles on the UK nanotechnology scene, which were published in Japan's "Nanotech Weekly" journal. These introduced key aspects of UK policy and funding, described the main UK centres of excellence, and were later used in a brochure for Japanese companies and research centres.

The 2005 Expo at Aichi opened in March with the theme "Nature's Wisdom". The UK pavilion showcases examples of British environmental technologies.

Country Profile

Singapore's commitment to science and technology remains high with a total spend on R&D in 2003 of S$3.4 billion (2.15% of GDP). The Agency for Science, Technology and Research (A*STAR) is working to establish Singapore as a world centre for biomedical research, which has rapidly become the fourth pillar of its manufacturing economy following success in chemicals, engineering and electronics. It is investing significantly in new infrastructure, including the state of the art Biopolis complex, overseas talent and training its own researchers.

Science Policy

Lord Warner, Parliamentary Under Secretary of State for Health, visited Singapore in June 2004 and held discussions with the Minster for Health and the Chairman of A*STAR. Lord Warner also spoke to representatives of Singapore's biomedical industry about the excellence of UK science and encouraged them to collaborate with UK companies.

Other visitors have included Professor John O'Reilly, EPSRC Chief Executive, Professor Roy Anderson, Chief Scientific Adviser to the Ministry of Defence, and Professor Colin Blakemore, MRC Chief Executive, to discuss research policy with representatives of Singapore's research councils. As a result of his visit Professor Blakemore has been invited to join Singapore's Biomedical Sciences International Advisory Council.

Science for Wealth Creation

We work closely with our UKTI colleagues and DTI's International Technology Promoters (ITPs) to help UK companies. Global Watch Missions on ICT Clusters and Stem Cells visited Singapore in 2004, providing an opportunity to discuss potential collaborations.

In order to capitalise on Singapore's growing biomedical science sector we worked closely with UKTI to bring out UK companies to the *BioTechnicaAsia Exhibition*. We also worked with the ITP for Life Sciences to give UK companies networking opportunities with Singaporean biomedical companies at the *BIO2004* Conference and Exhibition in San Francisco.

The Singapore British Business Council (SBBC) held workshops on science teaching and intelligent buildings, the latter taking place at the time of their annual meeting in Singapore in 2004.

Science Collaboration

A workshop on medicinal chemistry and the pharmaceutical industry was held in partnership with the Royal Society of Chemistry (RSC), A*STAR and the Singapore National Institute of Chemistry. As a result a number of collaborations are being explored and work on a further workshop is being considered. Other successful workshops were held on stem cell science and cancer biology.

The team has also supported UK universities looking for collaborative opportunities. For example, a visit from Newcastle University led to a workshop with Temasek Life Science Laboratory and subsequent visits from Newcastle University spin-out companies.

In order to promote collaboration more effectively, the British High Commission has opened a Science and Technology Office in the Biopolis – Singapore's state of the art biomedical sciences facility.

Science for Public Diplomacy

We work with colleagues from the High Commission and the British Council to promote the excellence of UK science, as part of our overall aim to present the UK as modern, creative, relevant and successful.

In addition to the major public diplomacy campaign – *UK-Singapore Partners in Science* (page 11) we supported a major seminar in October, in partnership with the Institute of Electrical Engineers (IEE) and UKTI, with presentations by Professor John O'Reilly (EPSRC), Lord Kumar Bhattacharyya (Warwick University) and Professor Joe McGeehan (Bristol University).

Singaporean organisations have also been encouraged to invite British scientists to Singapore. These have included Sir Richard Friend (University of Cambridge) and Sir Martin Evans (Cardiff University) who both gave a series of well-attended lectures.

The Sterling Group of UK Universities also arranged for a record 56 lectures to be given by 14 lecturers over 3 days at polytechnics, junior colleges and secondary schools on subjects ranging from food technology to fuel cells.

Brian Ferrar and Prince Andrew, Duke of York, at the opening of the new British High Commission S&T Office at the Biopolis.

South Korea
Seoul

Country Profile

Korea is now the world's 11th largest economy, and is working to reflect its strengths in development with successes in research. 2004 was an exciting year, with the State Visit to the UK in December, when President Roh opened the *5th UK-Korea High Technology Industry Forum*. Ministerial meetings were held on science and technology, ICT and energy, and several agreements were signed, including the UK-Korea Science, Technology and Innovation Partnership, which covers pure science to wealth creation, aiming to spot synergies delivering greater value for money.

Science Policy

Korea has a pivotal position in ITER following its early decision at Head of State level to support the Japanese bid. The S&T team has worked closely with the EU Delegation. Sir David King visited in July 2004 to press Europe's case, meeting the Presidential Adviser for Science & Technology, the Foreign Affairs and Science ministers, and key scientists.

President Roh opening the 5th UK-Korea High Technology Industry Forum, December 2004.

He also delivered a thought-provoking lecture on climate change.

Korea supports therapeutic cloning. Professor Hwang Woo-suk, Seoul National University, whose cloning work is world class, spoke at the time of the UN debates in favour of well-regulated therapeutic cloning. Public debate on this issue continues, and we maintain strong contacts with policy makers and scientists.

We have persuaded Korea to join the Renewable Energy and Energy Efficiency Partnership (REEEP), a British initiative launched at the 2002 Johannesburg *World Summit on Sustainable Development*. The Korean energy minister, Lee Hee-beom, signed the accession document with Mrs Patricia Hewitt and Mrs Margaret Beckett in London in March 2005.

Science for Wealth Creation

We promote direct commercial and investment opportunities and benchmark areas where collaboration with Korea can enhance the UK's own technology base. The *High Technology Industry Forum* in London during the State Visit enabled over 400 business-to-business meetings and created a market place in mobile communications technology, creative industries, energy and environment.

Mobile VCE – the mobile communications virtual centre of excellence – is doing particularly well in Korea, with Stephen Timms' visit, on his last day as e-Commerce minister, moving forward our ICT contacts. We have promoted co-operation between Electronics and Telecommunications Research Institute (ETRI) and Cambridge on optics and biotech/ICT fusion technologies. In the same way we are pursuing investments in life sciences, with a growing number of collaborations flowing through the Korea Health Industries Development Institute office in Glasgow.

We hosted Global Watch missions in mobile communications, smart textiles and stem cells, which raised the profile of Korean capacity, capability and entrepreneurial environments. We work hard with DTI to promote business opportunities. For example, the stem cell mission discovered how Korea's large population, supportive regulatory environment and strong history of entrepreneurial development, has enabled it to establish a world-leading position in cell nuclear replacement and medical implementation.

Science Collaboration

Korea is consciously moving into fundamental science, to underpin its evident strengths and achievements in applied research and near to market development. It realises it can no longer

survive as a production and export economy but needs to add value and be knowledge based. All this provides opportunities to enhance the UK's knowledge base.

UK research institutions are increasingly collaborating with Korea. For example, Cambridge University's Cavendish Laboratory is jointly working with the Korea Advanced Institute of Science and Technology; Heriot Watt has an agreement on gas hydrates with the Korea Institute of Geology and Mines; and the Council for the Central Laboratory of the Research Councils (CCLRC) has an MOU with the Korea Institute of Energy Research.

We also promote collaboration through the Networking Fund and Focal Point activities. These are now in full swing, ably led by the Royal Society and four distinguished scientists: Professor Richard Holdaway, CCLRC (space); Professor John Ryan, Oxford (bionanotechnology); Professor Colin Whitehouse, Director Daresbury Laboratory (nanotechnology); and Dr Jim Halliday, CCLRC (energy).

The Royal Society hosted the President of the Korea Academy of Science and Technology, Professor Chung Kun-mo, where he described his country's transition from a $50 per capita GDP and primarily rural society at the end of the Korean War, to today's high tech environment. We are also working with the Royal Society of Chemistry as it seeks to develop its presence in North East Asia.

Science for Public Diplomacy

Korea will host the *International Conference for Women Engineers in Science* this year. With the UK representative we aim for good representation from developing countries.

Taiwan
Taipei

Her Majesty's Government does not recognise Taiwan as a sovereign state and consequently does not have diplomatic relations with it. However, there is a non-governmental Trade and Cultural Office, with full time S&I officers working there.

Country Profile

In response to challenges presented by the new knowledge-based economy and the drive to stay competitive the Taiwanese Government launched the Challenge 2008: National Development Plan (2002~2007) to elevate Taiwan to world-class standing and to transform it into a 'Green Silicon Island'.

Total R&D expenditure in 2004 was NT$112bn (£1.87bn), with public sector R&D valued at NT$67.2bn (£1.1bn) and private sector R&D investment at about NT$44.8bn (£0.75bn). R&D expenditure was split between basic research (12%), applied sciences (26%) and technology development (62%). Overall R&D spending has risen from 1.66% of GDP in 1990 to 2.60% in 2003, and is set to reach 3% by 2006.

This year, the Taiwanese authorities have placed particular emphasis on National S&T Programmes, including hazard mitigation, telecommunications, agricultural biotechnology, pharmaceutical and biotechnology, genomic medicine, digital archives, nanotechnology and e-learning.

Science Policy

Taiwan wishes to focus more on biomedical research, and has sought advice from UK

colleagues on developing the regulatory and legislative framework that will be needed.

Science for Wealth Creation

Taiwan excels in mass production and commercialisation of technology. The team has enabled several UK companies to find partners in Taiwan, particularly in the field of biotechnology. A UK wireless technology company has also recently set up a branch office in Taiwan to sell intellectual property.

The Chief Executive of Hsinchu BioMedical Science Park (HBMSP) visited UK science parks, companies, research and incubation centres and universities in March. He has invited UK consultants and advisers to assist in developing HBMSP.

The S&I team arranged five Taiwanese missions in wireless/telecoms, agricultural technology, environment, biotechnology and precision machinery during the year.

Science Collaboration

EPSRC renewed its cooperation agreement with National Science Council (NSC) of Taiwan and reviewed collaborative projects between universities from both countries. Staff from the Royal Society of Edinburgh visited major Taiwanese research centres and spoke about their international experience at the science conference. The Royal Society sponsored four universities research projects, and the British Academy and NSC jointly sponsored 3 inter university research projects on topics ranging from bioinformatics to mudslides.

Sir William Stewart from the Health Protection Agency visited Taiwan in October to share experiences in infectious diseases and health care – in particular, controlling tuberculosis and SARS. An exchange visit and seminar were arranged as result of this visit.

Dr Wu, NSC Chairman and Dr Tseng, Vice President of Academia Sinica of Taiwan visited the UK, where they hosted a high-tech forum and life science seminars to promote scientific collaborations. Academics from more than 50 UK universities and research centres visited Taiwan to deliver lectures, or build joint research programmes. In return, more than 220 Taiwanese scientists came to the UK.

Science for Public Diplomacy

The S&I team set up a UK pavilion featuring seven UK companies at the *Semicon2004* conference – the largest Semiconductor Exhibition in Taiwan. Professor Jocelyn Bell Burnell, University of Bath, spoke at an Astronomy Symposium in Taiwan and gave a lecture at National Central University. Several Taiwanese scholars have approached the S&I team to explore the possibility of joint research as a result.

Czech Republic
Prague

Country profile

The Czech Republic is a small country with a population of 10.3m and GDP of £12.9bn. The Czech government has identified science and technology as a key priority. R&D investment is 1.3% GDP, with 0.59% from the state budget and 0.71% from private sources.

Structural funds and EU support contributes to innovation and knowledge transfer programmes. The Czech government is currently working on National Innovation Policy with a view to build S&I collaboration with other European countries.

Science Policy

The S&T officer in Prague actively supported key UK objectives on stem cells and cloning, ITER location, European Research Council (ERC) and preparations for Framework Programme 7 (FP7). The Embassy provided ongoing feedback on Czech views to UK stakeholders and continued reporting on issues such as Czech Republic membership of the European Space Agency, technology transfer and innovation. We also initiated a high-level bilateral policy dialogue between the Czech Grant Agency and the UK Research Councils on closer co-operation for bilateral research projects.

Science for Wealth Creation

The S&T officer initiated contacts between the Zlín Region in the Czech Republic and the Technology Centre of PERA, which led to an EU-funded project to develop a Regional Innovation Strategy and further collaborative links. There was also a continuing close co-operation with UKTI colleagues on science issues. Experts from Oxford Innovation, St John's Innovation Centre and DTI Innovation Group are working with the Czech Republic to improve the commercialisation of research from academic institutions.

Science Collaboration

In February 2005, the S&T officer contributed to a molecular biology conference for European scientists organised by the British Council. The event set the scene for UK-Czech collaboration on cancer research projects, to change the perception of cancer from 'fatal' to 'chronic'.

We organised a one-day seminar on intellectual property rights, patents and licensing with speakers from The Patent Office, Czech Industrial Property Office, Czech Academy of Sciences and two UK companies. Further co-operation between the UK and Czech Patent Offices is expected.

Professor Kevin Warwick at the Cafe Scientifique in Prague, May 2004.

Science for Public Diplomacy

In May 2004, the British Embassy and British Council continued their joint project, Real Life Science, presenting a series of lectures and informal discussions *(Café Scientifiques)*. Professor Kevin Warwick, University of Reading, and psychologist and writer Dr Susan Blackmore, Visiting Lecturer at the University of the West of England, impressed both academic and general public audiences.

New science pages on the Embassy website are being used to promote S&T bilateral partnership opportunities, such as the offer of research capacity at Diamond, the Oxfordshire light source synchrotron.

Denmark
Copenhagen

Country Profile

In 2004 public S&I spending amounted to over DKr 11,250 million (£1,000 million) – 0.73% of GDP (excluding international sources) and 0.7 % lower than in 2003. The comparison of national strengths and weaknesses in information and communications technology in the annual report from the World Economic Forum (WEF) put Denmark at its highest ranking ever within top IT nations, confirming its reputation as one of the world's most sophisticated countries in terms of public sector IT.

A survey by the Economist Intelligence Unit rates Denmark as the best country in the world for business investment and predicts it will hold this position for the next 5 years. The rating puts Denmark first on six of 10 characteristics: political and institutional climate, economic stability, corporate legislation, rules for foreign investment, infrastructure and the finance sector.

The Danish Government has established the Danish high-technology-fund to support research and technology transfer in emerging areas like nanotechnology, biotechnology and ICT.

The region of Copenhagen and the South of Sweden (Medicon Valley), is the largest pharmaceutical and biotechnological growth centre in Scandinavia and the 4th strongest in Europe.

Science Policy

When Lord Sainsbury visited Copenhagen in October he held productive talks with Danish counterpart Helge Sander, on three areas of mutual interest: FP7, ERC and the Marimon Report. They agreed to draft a joint UK/Danish/Swedish paper on FP7 and ERC, to gain support from the Baltic EU states.

As a lead-in to the British EU-presidency, the Network facilitated a bilateral meeting with the National IT and Telecom Agency and the Danish Ministry of Science on European ICT issues, which concluded that Denmark is much less close to the UK on ICT areas than might have been expected.

Science for Wealth Creation

In October, a *Novel Oncology Therapies seminar* was held at the British Embassy in Copenhagen, co-organised by the London Biotechnology Network and

International Technology Promoter Philip Oliver. The event provided an opportunity for UK organisations met with their Medicon Valley counterparts. The Embassy also hosted a bionanotechnology seminar and partnering event in Copenhagen in December to promote the profile of UK science and technology in Denmark.

Science Collaboration

The aim of Lord Sainsbury's visit to was to raise the profile of the UK as the best place for biotechnology in Europe, and to encourage Scandinavians to choose the UK as their partner of choice. Lord Sainsbury gave the opening speech at the *Biotech Forum*, Scandinavia's largest biotech event, when he launched the UK-MVA (Medicon Valley Academy) Challenge Programme to promote cooperation between the UK and the Oresund region in research and industry.

France
Paris

Country Profile

France's R&D scene has been dominated over the last year by a lively and often heated national debate about the future of science policy and budgets. The French Académie des Sciences has led a nation-wide consultation of researchers calling for major changes in the research system, including significant increases in science budgets and jobs, radical administrative simplification, more rigorous research evaluation and recognition of importance of basic research. In response, the government has produced a draft Research and Innovation Bill which has further ignited debate. Though to many observers the bill proposes evolution rather than revolution, and fails to tackle some of the most entrenched rigidities in the French system such as researchers' status as public servants, its focus on applied research and move towards greater project funding have been highly controversial. The government's response has been to put the bill on the backburner: once announced for end 2004, it now looks unlikely to see the light of day until 2006. These protests have continued despite the government's decision to inject an increase of 1 billion euros per year to the research budget, representing an 8% increase. In addition, the government has set up a new National Research Agency and is in the process of establishing a National Innovation Agency which together aim to inject money and direction into French applied research.

Science Policy

With international debates on cloning and choice of sites for ITER ongoing, we have been active in lobbying and reporting on French positions on both. We have increased the visibility and improved French perceptions of British bioethics policy, through a 1-day seminar in March 2005. A bilateral event, with presentations on both UK and French policy, this was well attended by top French decision makers. We have continued to report on evolving French positions on FP7 and prospects for a European research area. We still push for improved

collaboration on climate change – our G8 priority – through a series of visits by ministers and senior officials and our own activities.

Science for Wealth Creation

A major event, also linked to climate change, was a bilateral seminar on renewable technologies, held at the Embassy in January 2005. Attended by over 170 policy makers, journalists, industrialists and SMEs, this showcased British strengths in renewables and will, we hope, lead to business opportunities for UK companies, as there was much interest from key French players in this area. In autumn 2004, the team was closely involved in an ITP mission on Optics, led by the Smart Optics Faraday Partnership. S&I and UKTI teams were closely involved in co-ordinating the visit, taking in facilities in Paris, Lyon and Marseilles. We have produced a report on fuel cells and hydrogen research development in France, to flag up opportunities to the UK fuel cells network.

Science Collaboration

Our main focus here has been on cancer research. This was the cornerstone of the UK-France Entente Cordiale 100th anniversary celebrations. We set up an annual prize for young cancer researchers in UK and France. The winners were presented with the awards by Cherie Blair and Bernadette Chirac at Downing Street in November. We held a workshop for top cancer researchers in the UK and France and have followed up with the National Cancer Research Institute (NCRI) in the UK and the nascent French National Cancer Institute. We put together a young researchers event focusing on proteomics and cancer with the French Research Ministry.

With the British Council we have put in place a programme of grants for Franco-British collaborative cancer research projects. We have collaborated closely with the UK's National Translational Cancer Research Network (NTRAC) on a major

Entente Cordiale cancer seminar in the UK in October 2004, followed up by an event in Paris hosted by the National Cancer Institute in January 2005. We hope to create a new website, in collaboration with Nature magazine, to facilitate collaboration between cancer researchers.

Science for Public Diplomacy

In addition to public diplomacy aspects of the renewable energy and bioethics events, we continued our prestigious series of science lectures held at the Ambassador's residence. Remaining closely focused on policy areas of interest, we organised talks by Professor Michael Laughton on alternative energies, Sir Keith O'Nions on science and terrorism, and Professor Colin Pillinger on the Beagle 2 mission. These provided important occasions for exchanges with top French policy makers and scientists in these fields.

We are also in discussion with the Académie des Sciences and the Royal Society to re-invigorate the prix Franco-Britannique – a bilateral award for top young scientists from the UK and France. We have built up a closer network with science journalists in France, resulting in positive coverage of the UK's 10-year science and innovation strategy.

From left to right: Mr Hugh Elliott (Counsellor, Global Issues), Professor Colin Pillinger, Sir John Holmes (HMA), Madame Claudie Haigneré (French Minister for European Affairs), Dr Helen Dickinson (First Secretary, Global issues), Dr Stephen Flanagan (S&T Officer, Paris) – 'Beagle 2 and Beyond' lecture, June 2004.

Germany
Berlin, Munich

Country Profile

Germany is the UK's largest European and second largest world-wide export market. In 2004, Germany bought £22bn worth of British goods. Bilateral trade amounted to £57bn, making Germany our largest trading partner. The UK buys more goods from Germany than from any other country in the world, worth nearly £34.7 bn in 2004.

Britain is the favourite destination for German outward investment, after the USA, with some 3,700 German subsidiaries in the UK, supporting some 350,000 jobs. Many German companies already undertake R&D in the UK, but we want to encourage more to consider adding value to their businesses by developing R&D relationships with British companies and research institutes.

Total investment in German R&D was £37.2 bn in 2003 (2.55% of GDP), of which £11.6 bn (31.1%) from government and £25.6bn (68.9%) from industry and elsewhere.

The Federal Government has responsibility for the legislative framework for higher education, science funding, research and technology, support for young scientists, and international collaboration. The Federal and State Governments have joint responsibility for university infrastructure and large research facilities. Together they fund Germany's major research organisations.

In September 2004, Germany's National Ethics Council (NER) published a position paper on cloning, including therapeutic cloning. Not counting abstentions, a majority of NER members were open to the idea of research cloning under strictly regulated conditions. The UK's regulatory framework was seen as a model.

On 15 November 2004, Federal and State Governments pledged to increase institutional funding for Germany's main research organisations by at least 3% each year until 2010. As part of this, the Federal Government renewed its pledge to meet the Lisbon goal of increasing R&D spending to 3% of GDP by 2010. The Federal Government also plans to cut subsidies in favour of increased R&D funding.

On 26 November 2004 the German Lower House agreed the genetic modification (GM) act, overruling an earlier vote, and against advice of the scientific community. The act covers the controversial issues of strict liability rules for GM growers and the need for central registration of all GM fields.

Science Policy

In the past year, S&I team has lobbied on the UN General Assembly Human Cloning debate, FP7 and Enterprise Capital Funds, and presented to the DTI Innovation Group on Germany's priority research programmes and funding mechanisms. The team also worked to provide input to the UK's Organization for Economic Cooperation & Development (OECD) exam preparation for Germany,

which focused on innovation, the Cardiff Process, and benchmarking economic reforms in EU Member States. We also raised awareness in Germany of the research opportunities at the Diamond Synchrotron Light Source.

The team also secured German participation in the *G8 Energy Research workshop*, and helped the Germany-based International Early Warning Programme participate in the Prime Minister's National Hazards Working Group. It sponsored visits by the General Secretary of the German Research Foundation in July 2004, focusing on the ERC and the Research Assessment Exercise, and by an Economics Ministry official in October 2004 to discuss University Challenge Seed Funds.

Science for Wealth Creation

The Germany S&I team has invested particular effort in improving co-ordination with the (much larger) UKTI Germany network. Approaches include information sharing, business plan input, joint visiting, promotion of major UK high-tech events and improved understanding of each other's interests and of the different time-scales on which S&I and UKTI teams operate.

The S&I team, especially in Munich, is devoting particular attention to technology collaboration with German companies, working with UKTI and the ITPs. S&I and UKTI officers from Munich and Hamburg attended a 2-day symposium on innovative materials, to investigate R&D and technology trends, promote joint working and knowledge of German companies. New research collaborations have resulted from the 2002 ITP cancer research mission to Germany.

As ITP activity focuses on inward technology transfer and does not cover all sectors, other forms of collaboration, such as outward licensing or alliances between UK start-up companies and foreign partners, risk falling between the work of UKTI and ITPs. The S&I team therefore also encourages high-tech German companies to consider the UK as a rich source of attractive new technology partners, in addition to other obvious sources, both within Germany and eastwards (new EU members, Japan, China). Working with multipliers like chambers of commerce, start-up company incubators and industry associations is important.

Clean energy is another priority area, in particular fuel cell and hydrogen technology. The Munich S&I team has been developing contacts and events, designed to position the UK as partner of choice. One event brought together British and German participants in the scientific conference on fuel cells in Munich in October 2004. Munich is also seeking to

establish a substantive S&I element in cooperation between Bavaria and Scotland, initially in the environment sector. In both these areas Munich liaises with the Environment & Energy team in Berlin, and with UKTI Germany colleagues.

Science for Public Diplomacy

We organised a nanotechnology event at the Embassy in June 2004 with Paul Farrelly MP and young SPD MPs. Federal Research Minister Edelgard Bulmahn gave the keynote speech. The event gave us new access to policy makers and industry.

We facilitated the organisation of an Imperial College (IC) alumni event at the British Embassy Berlin, which gave us access to alumni working in German industry, IC scientists and knowledge transfer experts.

When Professor Ronald McKay visited Berlin to receive the Ernst Schering Prize in September 2004, he participated in a discussion about the commercial potential of stem cell research and regenerative therapies co-hosted by the Embassy.

We took advantage of Richard Lambert's fact-finding visit to Germany in January 2005 to organise a discussion on university-business links. We organised a full programme for Lord May's 24-hour visit in March, to raise Britain's scientific profile amongst key contacts from science, politics and business, as well as young physicists and journalists.

German Federal Minister for Education and Research Edelgard Bulmahn (right) at an event on the opportunities and risks of nanotechnology, British Embassy Berlin, 30 June 2004.

Italy
Rome, Milan

Country Profile

The Italian Government considers science and technology fundamental for the country's economic growth and competitiveness, and it is determined to increase the level of public expenditure to 1% GDP by 2010 as part of the wider Lisbon Agenda targets. The 2004 Financial Act devised a series of fiscal incentives to increase private sector R&D investment. How R&D institutions or companies make the best of the financial tax breaks/incentives remains to be seen, as Italy's overall competitiveness slides downwards. Part of the problem for Italy is structural as 90% of the economy rests with SMEs that find it financially difficult to invest long term in R&D.

Links between industry and academia are currently weak, but tax relief, dedicated funding programmes and exchange of research internship programmes have been put in place to change this. But this will require significant changes to the economic culture of the country.

The National Research Council has been streamlined and restructured to increase its efficiency, and the creation of the Italian Institute of Technology in Genoa, modelled upon Cambridge's MIT, is due to be operational in 2005-06. The profile of technology transfer is improving, with new technology and science parks, incubators and University and Research Centres liaison offices opened. Foreign direct investment has helped get some of these off the ground. Examples include the ICT Wireless District in Turin, the Nanotechnology District in Veneto and the new Robotics Pole in Genoa, demonstrating also a stronger involvement of regional administrations in promoting research and innovation. The proposed industry R&D budget for 2005-06 is €6bn with approximately 30% of this for applied research.

Science Policy

The S&I team organised a number of meetings last year, including talks in Rome and London between Sir David King and Minister of Research Letizia Moratti, and discussions between UK and Italian Government Officials to discuss ways of improving collaboration on AIDS research.

The House of Commons Science and Technology Committee visited Italy as part of their enquiry into Assisted Fertility and the law (October 2004), and Sir David King promoted UK Science policy and best practice in Turin.

Science for Wealth Creation

We have collaborated with UKTI, particularly on aerospace, automotive / transport and materials sectors.

We were also involved in a seminar on the future of Hydrogen Fuel Cell technology at the Embassy bringing together UK and Italian governments, industry and researchers. This was followed up by a joint government/industry mission to northern Italian hydrogen fuel cell centres.

Science Collaboration

Southampton University and Trieste Oceanographic Institute have now formally signed an agreement on the exchange of researchers as well as research collaboration. We have continued to work with the UN International Centre for Genetic Engineering and Biotechnology on a code of conduct for scientists working with biological material.

Researchers from the University of Glamorgan and the Inter-University Centre for Sustainable Development (CIRPS) at La Sapienza University in Rome have also begun collaborating, with joint research projects and exchange of students.

Country Profile

The Innovation Platform, chaired by the Prime Minister, is bringing about changes in government, university and entrepreneurial circles. The Platform offers a long-term vision to strengthen the climate and potential for innovation by proposing measures across a wide spectrum of policy areas, including further fiscal incentives for R&D and schemes for research collaboration. Recommendations by the Platform to tackle the impending shortage of international knowledge workers have been implemented, with much to be done in other areas. Government and industry spent ~€8.2bn on R&D in 2003, shared by government and industry.

The second half of 2004 marked priorities set by the EU Presidency of the Netherlands and the Brussels' agenda. European discussions, staged by the Dutch, focussed on the future of the EU research policy, international co-operation and security-related research. The first formal Joint EC-ESA-Space Council was held under the Presidency, creating the basis for working out the European Space Programme (ESP). Negotiations with Japan on EU's preferred site for ITER were not concluded, despite strong commitment from the Minister of Education, Culture and Sciences.

Science Policy

S&I unit enjoys close relations with a wide area of science policy contacts including the Advisory Council for Science & Technology (AWT), one of our key sources on strategic innovation advice to government. We aim to provide an effective hub in the Netherlands for the UK Government and Britain's scientific community, continuing to link areas of scientific excellence. This year we focused on brain and cognitive sciences and laid the basis for a new project on therapeutic cloning.

Amongst S&I unit's most prominent contacts is the Royal Netherlands Academy of Arts and Sciences (KNAW). Royal Society president Lord May participated in the InterAcademy Council (February 2005) and spoke with Her Majesty's Ambassador (HMA). IAC acts as an umbrella for 90 national science academies. Sir John Enderby, Vice-President of the Royal Society participated in the Euro Conference *Permanent Access to the Records of Science*, which discussed developing an infrastructure to make electronic academic publications permanently available.

We participated in the prestigious *Practical Ethics in Research* seminar, which British Council hosted jointly with the Netherlands Organisation for Scientific Research in October 2004. The event considered broad areas of everyday scientific practice and relations between science and the media.

Science for Wealth Creation

S&I unit maintains close connections with the National Genomics Initiative (NGI). We put on a neuroscience exhibition in association with the Wellcome Foundation, alongside other world class companies, at the NGI *Genomics for our World* conference. In addition, we organised a symposium on *The Living Brain: Neurogenesis and Neurogenomic* to present research by the Brain Repair Unit at Cambridge University and related work from the universities of Amsterdam and Leiden.

Our work with the University of Cambridge and the FC Donders Institute (connected to Nijmegen University and the Max Planck Institute) on studying the language centre of the brain has resulted in better collaboration and scientific exchange. Postdoctoral exchanges and travels linked to our brain science programmes took place between the Universities of Edinburgh and Amsterdam. Closer relationships were also forged between the

University of Cambridge and the Vrije Universiteit Amsterdam in memory and cognition programmes.

We participated in the *European Leadership in E-Science and Grids* event, which united policymakers and stakeholders from the high performance computing world. We also assisted Diamond Synchrotron with their request for international partnership in detailing possible requirements from the Netherlands and Belgium.

Science for Public Diplomacy

Our *Brain Science and Cognition Project* generated a professional exhibition in the embassy entrance hall, which became a focal point for a series of meetings involving HMA throughout the year.

Professor Richard Morris (Edinburgh University), President-elect of the Federation of European Neuroscience Societies, has been a particular stimulus to S&I unit throughout the project. His open lecture *How Brain Science Could Transform Our Lives in the 21st Century*, co-organised by the Royal Society of Edinburgh and the Royal Academy of the Netherlands was well-received. Professor Morris also chaired the Brain Science Event in the Scotland in the Netherlands programme during which plans were laid for an Edinburgh/Amsterdam post-doctoral exchange on memory and the synaptic plasticity of the brain.

S&I unit hosted internships at the embassy for three final-year biomedical science students. These placements count towards the students' graduation.

Left to right: Jane Darby (Deputy Head of Mission), Leo Zonneveld (Science Attachè, The Hague) Dr Edvard Beem (Medical Research Council ZonMw), Senator Dr D Dees (First Chamber and Chairman ZonMw) Marleen ten Horn (Free University of Amsterdam, The Hague), Sir Colin Budd (HMA).

Poland
Warsaw

Country Profile

European companies and institutions have shown significant interest in developing close links with Poland since it joined the European Union in May 2004. With a population of almost 40 million Poland is the largest of the new Member States. It has a high skill base and several strong academic and industrial centres such as Cracow, Wroclaw, Poznan and Gdansk. It is also the biggest recipient of European Structural and Cohesion Funds. GDP growth is currently around 5%, compared to ~2% in the Eurozone.

EU membership and the Polish government's commitment to Lisbon Agenda targets require collaboration with more experienced European partners. The World Bank's assessment of the S&I situation in Poland made a number of policy recommendations to include setting up new mechanisms for innovation support in the regions, encouraging stronger links between science and business and strengthening international co-operation.

The UK's experience means that S&I is an area in which Polish – UK collaboration could develop particularly well.

Science Policy

The Warsaw S&I business plan prioritised the promotion of UK best practice to support innovation and commercialisation of research. Sir David King's visit in March 2005 provided an opportunity to further this goal. Interest in UK expertise is strong in Poland, and we are working closely with the Government. Working with the UK will help Poland to increase its competitiveness and meet the Lisbon Agenda targets.

The S&I unit secured UK representation at a major conference of Innovation Relay Centres held in Wroclaw in May 2005 (initially the plan was to have German and Dutch speakers only). Huw Parry from PERA described how to encourage university/business collaborations using the UK model as an example of best practice.

The S&I unit has also researched and provided brief summaries of Polish positions on FP7 and mechanisms/legal instruments supporting innovation at the request of OST and SIG.

Science for Wealth Creation

The S&I unit funded and participated in a UK visit from two Polish Ministries and the Polish Agency for Enterprise Development, to improve SME access to R&D financing and encourage innovative attitudes within companies.

Science Collaboration

The *Space UK* seminar organised together with the British Council in February showcased UK/Polish collaboration on space research, and generated significant media coverage.

Professor John Zarnecki, the UK guest speaker, described his role in the recent Huygens mission and highlighted benefits of direct collaboration with his Polish counterparts from the Polish Space Research Centre.

Sir David King met Professor Legocki, head of Polish Academy of Science, during his visit, to discuss neuroscience and brain science – areas in which Poland has expertise, but lacks funding and equipment. The S&I unit will explore potential UK/Polish commercial opportunities and opportunities to increase research collaboration.

Robot assembling during the Space UK event at Olsztyn Planetarium.

Science for Public Diplomacy

During his visit to Poland, Sir David King presented on the role of science in European innovation, at the Ambassador's Residence, and on climate change at Warsaw University. The latter was the first in a series of climate change events held by the British Council with S&I and UKTI involvement.

Country Profile

President Putin has clearly stated his intention of moving Russia from a resource-based to a knowledge-based economy. Science and innovation will be essential for reaching the target of doubling GDP by 2010. 2004 was marked by the controversial proposal from the Ministry of Education and Science (MES) to increase the effectiveness of the public S&T organisations, promote development of non-governmental science and form a national innovation system. Among other measures, a draft law on special economic zones has been prepared, with the aim of increasing foreign investment in industry and thus boosting regional development. Finally, in October 2004 Russia ratified the Kyoto Protocol.

Public civil science funding has grown by almost 400% in the last 5 years. By the end of 2004 it had reached $1.6bn (0.29% of GDP, with total national R&D expenditure 1.44% GDP), with a projected $3.8bn by 2008.

Professor Andrei Fursenko (left) and Lord Sainsbury (right) at the Royal Society, May 2004.

Science Policy

In May the Royal Society celebrated Scientific Research Collaborations between Russia and the UK. The newly appointed Russian Minister for Science and Education Andrei Fursenko attended and took the opportunity for discussions with Lord Sainsbury and Sir David King. In October Her Majesty's Ambassador (HMA) had a productive meeting on science policy with Minister Fursenko in Moscow. The Science section continues to liaise closely with MES on the Joint Commission (JC) and the Ministry for Industry and Energy on the High-Technology Working Group. In January the Science section co-ordinated a meeting of senior OST and DTI officials with their Russian MES counterparts to identify priorities for the next JC meeting: climate change, FP7, ITER, flooding and forestry. This meeting coincided with a networking lunch organised by the Science team (and hosted by the Deputy Head of Mission) where senior Russian science contacts met OST visitors and the Ambassador.

Science for Wealth Creation

Several activities have focused on providing British models for commercialising technology to come out of Russian R&D organisations. One of this year's Embassy Global Opportunities Fund (GOF) projects was with Oxford Innovation, which worked with major research centres in the Moscow Region and Siberia to train and mentor people involved in technology transfer and

the financing of high technology start-ups. For example, assistance was given to setting up a "business angel" network for funding projects in the city of Tomsk in Siberia.

The Embassy's Science section continues to collaborate closely with the DTI Global Watch Service and the ITP for Russia. This collaboration has resulted in a series of articles on Russia in Global Watch Magazine, and has generated support for UK companies requiring information on Russian technology. Eight technology transfer and commercial scientific collaborations (including items on biotechnology, use of fuel cells, environmental technologies and instruments) and four secondments of Russian scientists to UK companies have also been initiated. The Science section was involved in establishing a major agreement between the DTI and the Russian Federal Fund for Assistance to Small Innovative Enterprises (FASIE) to increase the level of UK involvement in Russian innovation. Shell and the British Embassy held a one-day technology fair in Moscow at the Embassy to strengthen ties between academic institutes and Shell in July 2004.

The section has also achieved considerable progress on the Closed Nuclear Cities Programme to promote peace and security by maximising civil employment opportunities and scientific collaboration opportunities for FSU scientists formerly employed in the defence sector. An MOU was signed in Moscow in November between the RosAtom Federal Agency and the DTI.

In February, the Science section was instrumental in arranging the visit of Roger Baker, Head of the UKTI International Trade Team for the East of England to Russia. He visited a selection of organisations in Moscow and St. Petersburg to explore the current state of science and innovation activities in Russia, to assess potential and barriers for technology transfer form Russia to the UK. As a result, the DTI approved a staff secondment from a Russian high-tech company to Cranfield University to trial a new method for 3-phase flow measurement (oil, gas, and water) for use in the oil industry. The British partnering company will then develop the instrument for manufacture in the UK and sales to the global market, putting it in a prominent position in the world market of sub-sea metering technology.

Science Collaboration

A theme to this year's work of the Science section has been the promotion of biotechnology collaborations, with Russian bioinformatics and biotechnology experts visiting the UK last summer. These visits will enable the UK to use scarce human resources in molecular biology and improve collaboration on projects.

In October 2004 the section organised a working visit to the science town of Dubna, where the first large IT cluster is being developed. As Dubna is a candidate for special economic zone status, it was particularly

useful to meet with the City Administration, and key people in charge of the IT Centre development.

By liaising with the Russian Ministry of Foreign Affairs the Science section has supported marine research by Russian scientific vessels in the UK zone of the Norwegian Sea. Russian expeditions conducted trawl and acoustic surveys for herring stocks to develop long-term co-operation with UK organisations under the framework of the International Council for the Exploration of the Sea.

Science for Public Diplomacy

The British Council has been working with the scientific news agency InformNauka for 3 years to organise training and a competition for young Russian science writers. Entrants are mostly science journalists at the start of their careers or researchers with a talent for writing. The Embassy Science section has worked with the DTI to encourage submission of articles about innovation in order to extend the scope of the competition. The DTI award prizes for the best articles on innovation, which are also translated into English and published in Global Watch magazine.

Previous competitions have raised UK interest in technologies described in the articles, such as thermal synthesis of new materials and new methods of diagnosing breast cancer using laser acoustics. This year's competition was particularly strong and the DTI featured an article on Russian Engineering in Global Watch based mainly on articles from the competition.

Sweden
Stockholm

Country Profile

The Swedish Government aims for Sweden to be a leading research nation and one of the world's most R&D intensive countries. Sweden already leads the world in its R&D investment figures: the 2003 OECD Science, Technology and Industry Scoreboard showed that total Swedish R&D spending in 2001 was 4.3% of GDP. More than 75% of this is in the industrial sector, mainly in telecommunications, pharmaceuticals and transport. In March 2005, the Government presented a new research policy bill – Research for a Better Life – focussing future public spending on strengthening Sweden's international competitiveness in medicine, technology and environmental research.

During 2004 the Swedish government launched its Innovation Strategy, outlining a vision for Sweden "to be Europe's most competitive, dynamic, knowledge-based economy". This strategy highlighted the need to prioritise high-tech research areas, increase collaboration between public and private sectors and between small and large companies, strengthen the role of university holding companies and industrial research institutes, and to use the public sector as a driving force for sustainable development. However, feedback from the science and innovation community was that it did not contain the concrete proposals they were looking for.

Policy proposals expected in the coming year include likely changes to the rules regarding the ownership of intellectual property rights by university researchers and a new IT strategy.

Science Policy

During the past year, the S&I team in Stockholm has supported UK policy objectives in a range of scientific fields including reporting on relevant policy developments, such as the launch of the Swedish Innovation Strategy. Lord Sainsbury visited Sweden and Denmark to find out more about strengths in nanotechnology and biotechnology research, and also met with top-level politicians, officials and scientists at the Innovation Agency, VINNOVA, the Karolinska Institute and Lund University amongst others. Organised in collaboration with UKTI, Lord Sainsbury also used the visit to launch the UK-Medicon Valley Challenge Programme to promote closer collaboration and develop new partnerships in the biotechnology industry.

Other science policy activities included visits by the House of Commons Select Committee on Science & Technology Committee as part of their enquiry into Human Reproductive Technologies and the Law, and by the House of Lords Select Committee on Science & Technology, looking at Swedish innovations and policy in energy efficiency.

Science for Wealth Creation

Working closely with colleagues in UKTI, the S&I team ran a seminar on commercialising bionanotechnology for participants from the UK,

Sweden and Denmark. Further business opportunities were encouraged through extensive support for an ITP-led mission on Emerging Oncology Therapies. The mission included visits to key companies in the field, a business seminar and a science workshop at the prestigious Nobel Forum at the Karolinska Institute with representatives from both academia and business.

Another partnership with UKTI is the "Soft-Landing Programme' designed to build links and establish Swedish companies in UK science parks. Presentations have been made to companies about the advantages of undertaking R&D in the UK in a collaboration that will continue in the coming year.

Members of the House of Lords S&T subcommittee visit a development of "passive houses", Lindas.

Science Collaboration

Making contacts and building partnerships with research intensive industries and businesses, key universities and important multiplier organisations is an ongoing part of the S&I team's work. Particular focus in the past year has been placed on developing links in the Medicon Valley/Öresund area, which crosses the border with Sweden and Denmark, and the launch of the UK-Medicon Valley Challenge Fund. The S&I team also provided the key link between Stockholm's Karolinska Institute and the University of Sussex/South East of England Regional Development Agency, which resulted in a successful application to the European Interreg IIIc programme for a European Network of Excellent Research Competence.

In addition, the S&I team worked in close collaboration with the British Council to establish the *International Network for Young Scientist's* workshop in Lund, which focussed on diabetes and cardio-vascular diseases.

Science for Public Diplomacy

Over 200 people attended *Small Talk on Big Issues*: *Science in Society* a major programme of activities on nanoscience and nanotechnologies hosted by Lund University and organised by the S&I teams in Sweden and Denmark, together with colleagues in UKTI and British Council. Activities included a commercial partnering seminar and a *Café Scientifique* on bio-surveillance and nanotechnology. This event

will also feed into the UK "Small Talk" programme, funded by the Office of Science and Technology.

Another highlight was the focus on the UK at the 2004 *Gothenburg Science Festival*, where Professor Lord Robert Winston opened the festival and spoke to a packed audience on the human mind. The Festival showcased other UK science, including Professor Sir Richard Friend, founder of Cambridge Display Technology Ltd, speaking about the processes that take science from discovery to commercialisation. A team from Explore@Bristol – a UK science discovery centre – led interactive workshops with PhD students, school children and the general public in different venues across the city. The UK's National Centre for Biotechnology Education engaged participants in *"Finding the Murderer – a DNA fingerprinting workshop."* Again, close collaboration with colleagues in UKTI and the British Council was key to the success of this event.

Lord Winston, Karin Altenberg (British Council), Alice Hague (British Embassy Stockholm), Anthony Cary (HMA) and Lady Winston at the opening of the Gothenburg Science Festival.

Switzerland
Berne

Country Profile

Switzerland has 7.2 million citizens and although not a member of the EU, it has several bilateral agreements. Swiss GDP was £185 million in 2001, of which national R&D spend is around 2.7%, 2nd highest in the world on a per capita basis. GNP was marginally higher, with unemployment standing at ~4%.

Switzerland imports 4.5% of its goods from the UK and 80% from the EU. 5.5% of exports go to the UK and 60% to the EU. It is the world's 9th biggest outward investor, and 4th largest in per capita terms. Switzerland invests heavily in the UK, occupying 5th position with over 1,000 firms providing around 100,000 jobs.

UK delegation at Nanofair 2004, St Gallen, Switzerland.

Science Policy

Our policy highlight was Sir David King and the Swiss Secretary of State for Science signing a UK-Swiss joint strategy paper on collaboration in S&T, in Lausanne in November 2004. With Lord Sainsbury as initiator and co-signatory, the paper is a roadmap for future bilateral cooperation on S&T. It also calls for annual informal meetings between senior government science officials to review progress and to coordinate future activity. The document was drafted by Berne S&T team and received input from Swiss officials.

Sir David King's visit flagged up potential for improved coordination of UK-Swiss policy and lobbying on ITER. We facilitated private discussion with Professor Tran of the Federal Institute of Technology at Lausanne (EPFL), who is also the European Fusion Development Agreement Leader. Swiss interests closely match those of the UK. Switzerland signalled a possible interest in increasing its financial contribution to ITER to above the current 3% in exchange for full inclusion in the ITER debate among European partners.

S&T team also helped co-ordinate two sponsored visits for key Swiss S&T opinion formers to London, Manchester and Oxford.

Science for Wealth Creation

Our efforts to create wealth for the UK with cutting-edge science and to facilitate knowledge transfer and technology collaborations were marked by three first-time events: a significant UK pavilion at *Nanofair* in St Gallen; a *UK-Swiss Applied Photonics Partnering workshop* in Berne; and a Swiss cancer therapies expert mission to Cambridge and Manchester.

The UK showcased its emerging strengths in nanoscience on the UK stand featuring 14 UK SMEs and research organisations at the *NanoEurope* exhibition and conference in St. Gallen. This event was possible due to the organisation by S&T Berne, our Inward Investment section and UKTI London. The event generated some 20 serious leads for sales or collaborations.

Our *Applied Photonics Partnering workshop* co-organised with UKTI Berne and Photonics Cluster UK brought 21 British companies together with 35 Swiss companies and university research departments for a 2-day programme of partnering sessions, technical presentations and company visits.

Separately, the Swiss government invited HMA and us to accompany the first Swiss Biotech and Nanotech Mission to London with 60 invited participants in May 2004. The mission was led by the Swiss Secretaries of State for Science and the Economy, and was received by Lord Sainsbury, Sir David King and other UK science leaders.

Also, the Embassy provided strategic support for a technology tour lead by a Geneva-based Association, for European venture capitalists to London, Cambridge and Bristol.

Science Collaboration

In March, the cancer therapies mission co-led by S&T Berne and our Inward Investment section took eight senior managers of Swiss biopharma SMEs to UK colleagues in Cambridge and Manchester, including Astra Zeneca. The mission received strong support from the biotechnology cluster in Cambridge and the East of England, BioNow and Astra Zeneca, and generated some probable partnerships for clinical trials. One EU FP6 application has already been submitted for a research project between one of our hosts and the University Hospital of Berne.

Lord Sainsbury and Ian Haliday, Chief Executive of Particle Physics and Astronomy Research Council (PPARC), represented the UK at the climax of international celebrations and bilateral events to mark the 50th anniversary of the European Particle Physics Lab, CERN.

Science for Public Diplomacy

In April, we supported UKTI Berne in executing the 1st *UK-Swiss Energy Emissions trading conference* in Zurich.

To underscore our prioritised promotion of the UK biopharma sector as the European leader, HMA Simon Featherstone hosted two lunches for Swiss opinion leaders and decision makers, with Sir Richard Sykes and Dr Phyllis Starkey as guests of honour.

At the annual science open day of the EPFL in November, Sir David King delivered a speech on the science of climate change and its challenges to an invited audience of 300.

In December, Berne's University Hospital hosted the *4th International Congress of the Swiss Proteomics Society*. With financial backing from Inward Investment section, S&T Berne fielded Dr Adele Rowley, Director of Pharmacology at Cellzome Inc. in Cambridge as keynote speaker. Dr Rowley delivered a professional update of Cellzome's world-leading drug discovery work for Alzheimer's disease, including collaboration with Novartis, to an international biomedical audience of 250.

Participants at the UK-Swiss Applied Photonics Partnering Workshop.

Israel
Tel Aviv

Country Overview

Israel is one of the world's technology powerhouses, second only to Silicon Valley, with electronics and biotechnology at the heart of fast-growing high-tech industries.

Relative to its population, Israel has one of the most highly educated workforces in the world. It has the largest number of publishing authors in the natural sciences, engineering, agriculture and medicine. It is second only to the US in the number of publications in leading life sciences magazines, and ranks third in the world in patents after the US and Japan. Israel's spending on civilian R&D in 2002 was 4.2% of GDP, above the OECD average.

Most Israeli basic research is conducted at seven independent universities. In government, the Ministry of Industry, Trade and Labour lead on funding industrial R&D and the Ministry of Science and Technology determines public research policy and international science relations. Both ministries are interested in capitalising fully on the commercial potential of the technologies emerging from the country's excellent research network.

Highlights of 2004 include two Israeli Nobel prize winners in chemistry (Professor Aaron Chiechanover and Professor Avraham Hershko for their work on cancer); the government's announcement of priority funding for the nanotechnology and biotechnology sectors; the formation of a National Council of Bioethics; and the extension of a 5-year moratorium on reproductive cloning.

Science Policy

Tel Aviv's S&T section has responded to a range of requests from customers including requests from the DTI, Lord Sainsbury's Office, the Treasury and Research Councils UK. Requests have ranged from Israel's policy on cloning to information on Israeli mechanisms for international collaboration.

Science for Wealth Creation

The UK and Israel are leaders in stem cell research. This has the potential to revolutionise treatment for illnesses including cancer, diabetes, neurological diseases such as Parkinson's disease, spinal cord injuries and heart disease. With the goal of making the UK Israel's partner of choice for research and commercial collaboration in stem cells, Tel Aviv's S&T officer organised a mission of leading Israeli academics and companies to Scotland, with the assistance of Scottish Development International. The mission resulted in stronger links between UK and Israeli academia and companies.

The S&T officer also worked together with UKTI to support two missions on technical textiles. This is a new and emerging sector dealing with intelligent textiles with applications from medical diagnostic

equipment to protecting the body from sweat or bacteria. The missions aimed to benchmark new Israeli materials and their technologies and to take advantage of Israeli developments through technology transfer to enhance UK industry. The first mission resulted in participation in a technical textiles conference 4 months later.

Science Collaboration

Two joint events took place in 2004 under the Science Networking Development Scheme. The second *UK-Israel Symposium on Computer Graphics* took place at the Technion (Haifa), with additional support from the University of Haifa. The objectives of the event were to reinforce existing collaborations, identify areas of mutual interests, expose students to research taking place in both countries and create new ties. Collaborations have already started both between several groups of participating researchers and with Industry.

The second event, the UK-Israel workshop on nanobiotechnology took place at Ben Gurion University in the Negev and consisted of one day of presentations to a wide audience and a second day of round table discussions between the UK participants and Israeli scientists. This workshop has also yielded collaborations, student exchanges and discussions on joint applications to EU funding programmes (such as the Human Frontier Science Programme).

Science for Public Diplomacy

Tel Aviv's S&T section collaborated with the British Council in Israel on a *Café Scientifique* led by Dr Tom Shakespeare from Newcastle's Centre for Life – the first UK institution to receive a licence for therapeutic cloning for research. The event aimed to promote UK leadership in stem cell research and regulation. The Embassy's S&T officer was one of the moderators. The audience, which included the lay public as well as researchers and policy makers from Israel and the UK, participated in lively discussions.

South Africa
Johannesburg and Pretoria

Country Profile

The National System of Innovation in South Africa (SA) sets a policy framework for social and economic development through a science and technology knowledge base. To boost its science and technology research, the Innovation Fund and The National Research Foundation (NRF) were established, incorporating the Foundation for Research Development (FRD) and the Centre for Science Development of the Human Sciences Research Council (HSRC). Statutory science councils are responsible for science and technology development, innovation and transfer, the promotion of human resources development, and promotion of technology implementation. The councils cover areas such as agriculture, industry, minerals, medicine, geology, standardisation and quality systems, energy, water, fisheries and the environment. South Africa has bilateral S&T agreements with some 30 countries.

Science Policy

UK's presidency of EU and G8 has raised much interest in South Africa, particularly at the Commission for Africa, where they have formed the basis of the policy agenda. Our focus was on encouraging science institutions, especially Department of Science and Technology (DST) and New Partnership for Africa's Development (NEPAD), to engage and input into the process. This was especially important, as the Commission had very little focus on S&T for development.

The S&I section also helped in engaging OST and NEPAD on African development. The visit of Gordon Conway, Chief Scientific Adviser to the Department for International Development to South Africa also reinforced the importance of S&T for development, and provided an opportunity to explore a SA/UK partnership for pushing the development agenda.

The UK nanotechnology strategy has been widely distributed in South Africa, and there is a lot of interest in the ethical issues that this science raises.

Science for Wealth Creation

Post works closely with UKTI to forge links between innovators and technology companies in UK and South Africa. At UKTI missions, we brief technology companies on S&T in South Africa, and the S&I officer has assisted UKTI with the IATS mission, automotive seminar, the clean coal technology mission, the renewable energy mission, and the climate change mission. The section works with UKTI's Inward Investment Group to promote UK as an S&T base by promoting UK's national R&D facilities such as the Diamond Synchrotron.

The *Innovation Science and Technology* fair helped to launch the Inward investment arm of UKTI via an exhibition on UK opportunities in S&T.

Science Collaboration

The S&I section has been working to increase uptake of collaborative schemes by S&T institutions throughout South Africa. Schemes include the 1996 Royal Society/National Research Foundation programme for enabling black researchers, encouraging UK/SA academic R&D collaborations and establishing centres of excellence. The UK/SA networking agreement was a mobility grant for South African and UK scientists. An agreement to co-operate on research in animal diseases was also signed.

The S&I section published a brochure of UK opportunities for research and collaboration, such as the Dorothy Hodgkin Scholarships, Chevening Scholars, etc). This has been circulated to S&T institutions throughout South Africa, to raise the profile of the UK as partner of choice.

UK attendance at the *International Science & Technology (IST)* fair included OST, Research Councils, and British Council.

DST and S&I section have identified several key areas for co-operation: themed events through the networking scheme and British Council's Young Scientists Networking Scheme; promotion of opportunities for collaboration between UK

and South Africa; S&T for sustainable development, with the UK as core group; and mechanisms for sharing policy, such as a paper on the DST system and how SA uses the UK's research assessment system.

DST is pushing for South African involvement in the EU Framework Programme, and the S&I section feeds into these programmes via workshops held for EU states. It is hoped that programmes started by post, such as the institutional partnering programme, will address a fundamental problem with EU funding – namely how to access research consortia.

We initiated an institutional partnering programme by taking South African scientists to the UK to meet Research Councils and their counterparts in other universities to explore collaborative opportunities on projects in material science and defence/aviation. We are liaising with DST to evolve this and include younger scientists.

Science for Public Diplomacy

The UK participated at the Department of Science and Technology's IST fair: *Sustainable Development, Science and Technology – Challenges Ahead*. The UK exhibited and showcased UK's renewable and environmental technologies, space technologies, partnerships with South Africa, and opportunities for investment into the UK.

A side event was the *Phillip Tobias Lecture*, modelled after the *Zuckerman Lecture* series, and inaugurated by UK Nobel laureate Sidney Brenner. Other prominent UK scientists such as Dr Karpas (Cambridge University) spoke at parallel events.

The S&I section promotes UK as partner of choice by showcasing cutting-edge technologies on its website, and broadly distributing science magazines to raise awareness, not only of science, but also of UK's scientific excellence.

Science and the International Priorities
Country Activities

This chapter sets out how the Science & Innovation Network has contributed towards the other FCO International Strategic Priorities.

Tsunami and Early Warning Systems – Posts have provided input on science issues related to the Indian Ocean tsunami disaster and future assessment of global natural hazards and development of early warning systems.

SP1 – A world safer from global terrorism and weapons of mass destruction

Italy: Biotechnology Code of Ethics The science team in Rome has been tasked by the FCO to work closely with Italy's International Centre for Genetic Engineering and Biotechnology, to assist in drafting a code of ethics for international biotechnology scientists.

USA: Homeland Security The US's first bilateral S&T Agreement on homeland security opens the door for closer UK/US collaboration and information exchange on security-related science and technology, leading to co-ordinated research and possible commercial opportunities.

Russia: Redeployment of chemical weapons scientists Following initial contact with a British company, facilitated by the Embassy, over $250k was invested in Volgograd for developing the production of fire retardant chemicals. This created employment for 50 former chemical weapons workers.

Russia: Nuclear Security Considerable progress has been made on the Closed Nuclear Cities programme to promote peace and security by maximising civil employment opportunities and scientific collaboration opportunities for FSU scientists formerly employed in the defence sector. An MOU was signed in Moscow in November 2004 between RosAtom and the DTI.

SP3 – An international system based on the rule of law

UN Cloning – All posts have been involved in lobbying on UN discussions on reproductive and therapeutic cloning. World opinion was shifted to avoid a divisive and unproductive vote on a possible ban on all forms of cloning in the autumn. Instead, the General Assembly adopted a political declaration emphasising the importance of this subject in February. UK interests have been promoted to actively encourage therapeutic cloning research. This offers huge potential to develop new cures for life threatening diseases, which affect many millions of people. There is also greater worldwide understanding and interest in how the UK has encouraged debate on the ethical issues and developed a rigorous, regulatory approach.

SP4 – An effective EU in a secure neighbourhood

EU Framework Programme – European posts remain in close contact with their counterparts on FP7 issues and innovation. This includes working-level visits, in both directions, on specific areas of interest. Science officers work closely with officers in EU & Economic sections to provide input on science and innovation issues (e.g. Cardiff report,

Lisbon agenda, state aid regulations, competitiveness). Other posts e.g. US, Canada, China, Korea also work with counterparts to develop EU-bilateral relations in science and innovation.

SP6 – Sustainable development, underpinned by democracy, good governance and human rights.

Africa/ Canada/ UK workshop: Building science and technology capacity with African partners This event engaged high level contacts to consider how the UK and Canada can work more effectively with African partners to build S&T capacity in Africa. Discussions spanned domestic structures, governance and incentives, and lessons learned from existing mechanisms, and fed into the Commission for Africa and G8 process. Both Canada and the UK take a leading role in the international development arena, and Canada has a unique structure in the International Development Research Centre. By working in partnership with Canada, we are therefore able to exploit the knowledge and experience already built up in this area in both countries, and to maximise the scope of the workshop by pooling funding.

Sir David King, Silas Lwakabamba (Rector, Kigali Institute of Science, Technology and Management, Rwanda) and Walter Erdelen (Assistant DG for Natural Sciences, UNESCO at the "Building S&T Capacity with African Partners" workshop.

China: Food Safety Staff in Chongqing organised a conference on how governments can make food safer. Experts from the Health Protection Agency, the Food Standards Agency and the WHO briefed more than 100 Chinese provincial and national food safety regulators on systems for dealing with chemical hazards, microbial pathogens and the certification of foods such as organics. China is in the process of strengthening/reforming regulation in this area. The conference enabled the UK to communicate its approach. An accompanying press event led to significant coverage in local media. Follow-up contact is expected between the UK and Chinese agencies.

Dr. Martin Evison (University of Sheffield) and Dr. Marco Aurélio Guimarães at the forensic anthropology lab in CEMEL, the Medico-Legal Centre at the University of São Paulo, Ribeirão Preto, Brazil."

Japan: Infectious Diseases In November, the Embassy hosted a seminar by Lord May (President of the Royal Society) on infectious diseases. The Japanese have now invited the UK to be represented at a Japan/US expert workshop on the spread of infectious diseases. We hope to use this opening to build collaboration with Japan in this key area.

Korea: Sustainable Development Seminar A joint seminar on sustainable development organised with the German Embassy in June 2004 included UK representation from the British Sustainable Development Commission, and the Town and Country Planning Commission. This resulted in strong links with the Korean Presidential Commission on Sustainable Development, and Korean representation at the Scottish Executive's launch of UK's sustainable development strategy in March 2004.

Brazil: Forensic Science Project This joint project between the universities of São Paulo and Sheffield aims to develop forensic anthropology capacity at CEMEL (medical legal centre in the city of Ribeirão Preto). The purpose is to better resolve forensic cases related to the identification of victims of violent crimes, human rights violations, executions and torture. Sheffield will aid CEMEL in setting up a forensic anthropology lab to develop local scientific capacity in skeletal analysis and identification, facial reconstruction, autopsy and DNA profiling. British specialists also provide training in the UK and locally.

SP7 – Climate change and security of UK and global energy supplies

ITER – Many posts have been involved in influencing negotiations on the future siting of ITER. This is the next step in fusion research to show that fusion can produce useful energy.

Canada: Arctic science planning and logistics seminar This seminar focussed on scientific co-operation, the International Polar Year (IPY) in 2007-8, and climate change and Arctic policy. It brought together researchers, funders and government departments from the UK and Canada, as well as representatives of Canada's northern communities and research organisations. Plans were developed for joint working on IPY as well as the potential sharing of Arctic research equipment, research stations and ships (including EU vessels). Arctic research is key to understanding climate change and its impacts as well as capacity building in local communities. Given that Canada is a key Arctic nation, enhanced UK-Canada scientific co-operation so early in the IPY process opens the door to an increased level of access to Canadian research and infrastructure for the UK in the long term.

Canada: Low carbon buildings mission Energy-efficient buildings are an important way of mitigating climate change. A delegation of UK staff from academia, Research Councils, Carbon Trust and low carbon building industries visited the Canadian Centre for Housing Technology in Ottawa. They met with scientists and others in the field to showcase UK expertise, discuss best practice and build the potential for UK-Canada collaboration. As a result, further discussions are already underway, e.g. with UK window manufacturers, and there is interest in using UK expertise in energy rating and post-occupancy evaluation of buildings. A group of Canadians, led by the principal contact for the Ottawa meeting, will visit the UK in October 2005 for follow-up discussions.

USA: Global Warming Working with the California Governor on the Global Warming Initiative of the West Coast Governors, in support of the Prime Minister's G8 priority on climate change. The San Francisco team is working with the Governors' advisers on UK attendance at a key conference on Climate Change science and impacts on the West Coast.

USA: Electrochemical Energy Storage Support of mission that covered San Francisco, Albuquerque, Denver, Detroit, Boston, Newark and Washington DC. Mission members were able to review new and emerging electrochemical storage devices for stationary, portable and transport applications and evaluate potential collaboration and business opportunities.

USA: Renewable Energy Forum at World Renewable Energy Congress A joint initiative between science and environment officers and UKTI. A strong UK policy message on climate change and renewable energy was delivered by the

then Energy Minister Stephen Timms. The forum showcased best practice from the UK on advancing the take up of renewable energy. UK speakers highlighted opportunities for the growth of renewable energy markets and technology differences between the UK and US, bringing out investment mechanisms, barriers to development and the need for a long-term consistent regulatory environment.

Steven Timms and Andrew Mill at the World Renewable Energy Congress, Denver.

USA: Renewable Energy Mission Co-hosted with UKTI, involving eight UK companies on visits to local utilities (power and water delivery companies) and a reception to introduce them to California government energy and environment personnel. Several companies are now in talks with the local (Southern California) utilities on future funding of research and development.

China and India: Flooding and Coastal Defences Discussions are underway to draw on the UK's Foresight Flood and Costal Defence project, which uses cutting-edge science and advanced modelling techniques against a backdrop of future climate change and socio-economic scenarios, to input to future policy development on climate change.

Japan: Climate change modelling The UK has a world-leading climate change model while Japan has the world's most powerful supercomputer, the Earth Simulator. The Embassy brought key players on both sides together and provided pump-priming funding for initial collaboration. This has now come to fruition with the posting of 6 UK researchers to the Earth Simulator for 3 years to undertake joint research. The results will directly contribute to our G8 climate change science aims as well as giving the UK access to a piece of $500m equipment. The Foreign Secretary led the launch event in January, with presentations by the heads of the organisations involved to 100 policymakers and scientists.

Japan: Energy and Sustainability With GOF funding, we are promoting UK/Japan interactions on a range of sustainability issues to accelerate research in key areas through collaboration, and to give UK scientists access to some of the world's best-funded centres of expertise. The Japanese are making a massive investment in research on fuel cells and hydrogen, with spending this year of £165m. The Embassy has supported two expert workshops and a series of researcher exchanges to bring together the key players. Ideas for collaboration are now emerging. We plan to support a follow-up workshop in May and a further round of researcher exchanges to help bring these ideas to fruition. Starting in autumn 2004, we are funding a series of researcher exchanges on a range of topics including renewable energy for buildings, reuse of urban residential stocks and new materials for building.

Foreign Secretary Jack Straw with the leaders of the research organisations involved in the climate change collaboration, and the British scientists based at the Earth Simulator Centre.

Korea: Climate Change Policy Sir David King's climate change seminar during his ITER visit to an influential audience was a step forward in the campaign to swing Korea towards implementing the Kyoto Protocol and joining REEEP.

Korea join the REEEP: Minister Lee Hee-Beom with Patrica Hewitt (former Secretary of State for Trade and Industry) and Margaret Beckett (Secretary of State for the Environment, Food and Rural Affairs).

France: Climate Change Policy Sir David King delivered the UK message on climate change at the highest level to an audience of French Government officials and business leaders. (A top official in the Environment Ministry requested a copy of the speech to present to her Minister.) Follow up work with contacts made at the event has raised awareness of UK climate change policy considerably within the French Government. Tangible evidence of this includes a joint press article on the challenge of climate change by French and British Foreign Affairs and Environment Ministers, published on the front page of national daily Le Monde. The British example has empowered French Ministers to take climate change issues seriously and France now looks to the UK as a leader on climate change issues and has just pledged active support for the climate change objectives of our G8 presidency.

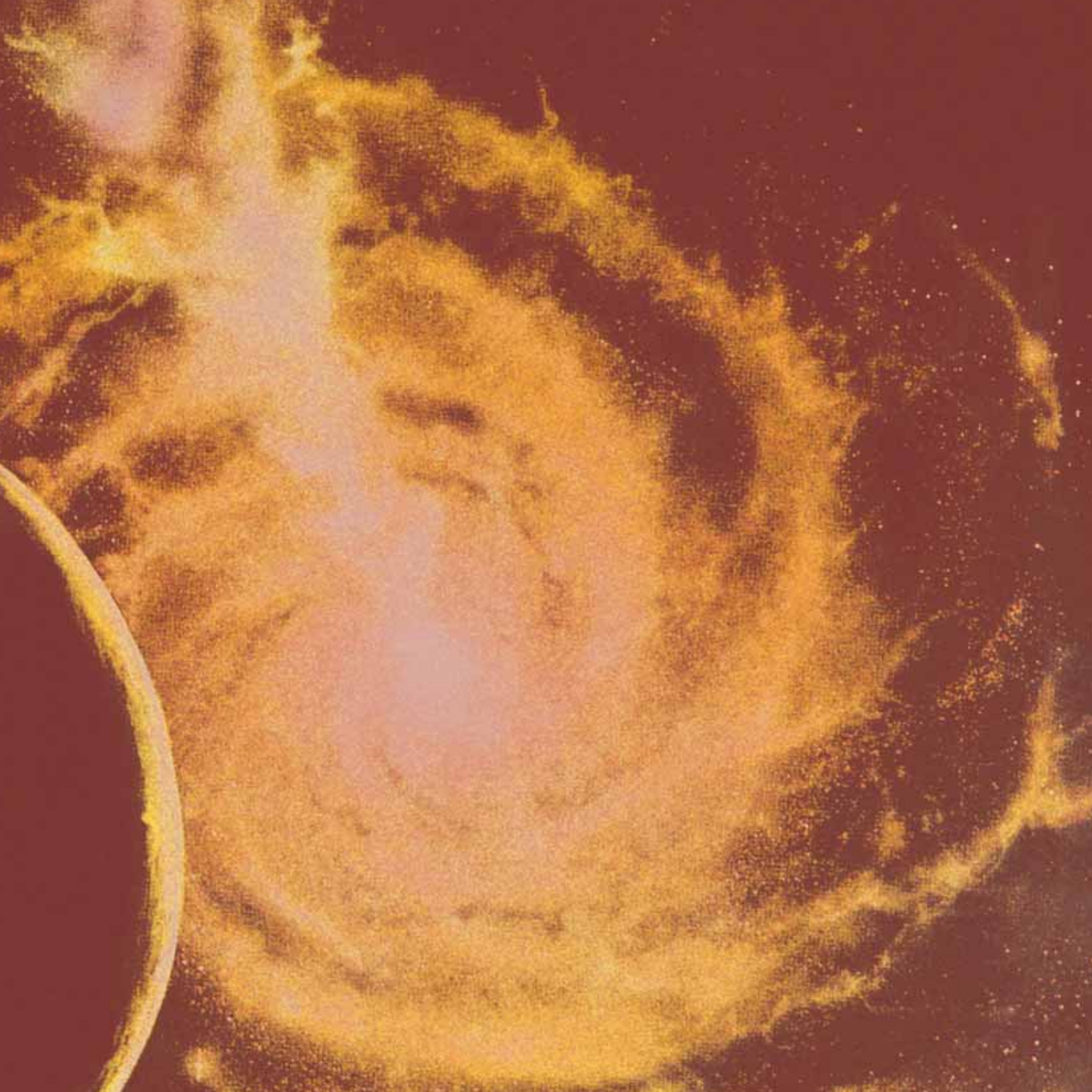
Germany: Berlin Climate Change Conference Joint working between environment and science teams ensured a strong scientific component to this significant event, which formed part of the Queen's state visit. The conference brought together 170 scientists, policy makers, industry leaders, financial institutions and other stakeholders from the UK and Germany to explore how science could meet the challenge of climate change, how business could help put new technologies into practice, and how financial institutions could contribute. Follow-up included an MOU that will provide a framework for collaborating on climate change science, a Bilateral Action Plan to outline future activity, two GOF-funded seminars on specific aspects of climate change, and production of the Conference Report to coincide with the beginning of our G8 presidency.

Germany: Lords' Select Committee Visit Together with the Environment Team, we organised a visit by the House of Lords Science & Technology Committee's Subcommittee on Energy Efficiency to Berlin and Munich. The Committee sought evidence on policies currently in place in other EU countries for reducing carbon dioxide emissions and looked at research in this sector to see how well it transfers to applications.

Russia: Seminar on Science of Climate Change The visit by Sir David King and other leading scientists was dominated by politics, but provided an important opportunity to build influence and present expert information that led to Russian ratification of the Kyoto protocol.

Her Majesty the Queen meets Sir David King (Chief Scientific Adviser) at the Climate Change Conference, Berlin.

Courtesy of foto di matti



ANNEX 1
Science & Innovation Network Posts

Americas

Brazil
Brasilia*
Sao Paulo

Canada
Ottawa

Mexico
Mexico City*

USA
Atlanta
Boston
Chicago*
Denver*
Houston
Los Angeles
New York*
San Francisco
Seattle*
Washington

Asia-Pacific

Australia
Canberra

China
Beijing
Chongqing
Guangzhou
Hong Kong*
Shanghai

India
Bangalore
New Delhi

Japan
Osaka
Tokyo

Malaysia
Kuala Lumpur*

Singapore
Singapore

South Korea
Seoul

Taiwan
Taipei

Europe

Austria
Vienna

Belgium
Brussels*

Czech Republic
Prague

Denmark
Copenhagen

France
Paris

Germany
Berlin
Munich

Ireland
Dublin*

Italy
Milan
Rome

Netherlands
The Hague

Poland
Warsaw

Portugal
Lisbon*

Russia
Moscow

Spain
Madrid*

Sweden
Stockholm

Switzerland
Berne

Other

Israel
Tel Aviv

South Africa
Pretoria

**No dedicated Science officer*

ANNEX 2
Science & Innovation Network
Profiles

London Science & Innovation Group

Fiona Clouder Richards – Head of Science & Innovation

Fiona Clouder Richards joined the FCO in October 2001 from the Research Councils. Her career has included science policy, research management and international relations. With a background in Neurosciences, her posts have included Physical Sciences, Manufacturing Engineering, Biosciences and Private Secretary. For the last 14 years her work has involved international relations in science and technology, including leading the UK Research Office in Brussels and close liaison with the FCO Science officers around the world.

Richard Jones – Deputy Head

Richard joined the Group in March 2003 on return from a four year posting as First Secretary (Inward Investment) in Tokyo. During that time he worked closely with colleagues in the Embassy's S&T Section and Commercial Department and saw first hand the mutual benefits of such collaboration. He has had a range of bilateral and multilateral political jobs including, since 1985, Deputy Head of the Human Rights Unit in the FCO, DHM in Suva, and Head of Central America Section of the Latin America Department, giving him broad experience in policy and management issues.

Brazil

Sao Paulo

Alexandra Ozorio de Almeida – Science & Technology Officer

Alexandra joined the British Consulate General in October 2003. She has a Masters degree in Political Science from the University of São Paulo where she specialised in Post-War Brazilian Nuclear Policy. Before joining the S&I Network, she worked as a journalist for the greater part of her professional life. For six years she was a journalist at one of Brazil's most respected and widely read dailies, Folha de S.Paulo, latterly in the post of Assistant Science Editor.

Canada

Ottawa

Julia Hinde – First Secretary (Science & Technology)

Julia Hinde – First Secretary (Science & Technology) Julia joined the Network in February 2002. A Cambridge University graduate, she worked on regional newspapers before spending three years as a science journalist for the Times Higher Education Supplement. In 1999 she moved to Australia and worked freelance contributing to New Scientist, the Times and the Independent among others publications.

Julie Wright-de Hennin – Science & Technology Officer

Julie joined the Network in May 2002. She has a PhD in biophysics from Imperial College London, and spent three years doing medical research at the Prince of Wales Medical Research Institute in Sydney, Australia. She then worked for high-tech fibre optic components company JDS Uniphase in Ottawa.

Eleanor Fast – Science and Technology Assistant

Having moved to Canada from the UK in 1998, Eleanor has a MSc in biodiversity from McGill University in Montreal. She has held a variety of positions in both scientific research and administration, most recently working for the career service of McGill University. Eleanor joined the Network in August 2003.

USA

Washington

Julian Braithwaite – Counsellor (Global Issues)

In fall 2004, Julian joined the S&I Network as Head of the Global Issues Group where he leads the Trade, Transport, Energy/Environment, and Science/Technology policy teams in the Embassy. Before coming to Washington DC, Julian most recently served as Director of Communications to the Office of the High Representative in Sarajevo. Julian has also previously worked for Number 10, the United Nations and NATO. He holds a BA from Cambridge University and Masters of Public Administration from Harvard University where he attended as a Kennedy Scholar.

Phil Budden – First Secretary (Science & Technology)

Phil joined the S&I Network in mid-2004 as the First Secretary responsible for Innovation, Science and Technology. He has been at the Embassy since 2002 covering a range of information and communications technology (ICT) issues, alongside policy on IP, extraterritoriality, competition and consumer protection, and transatlantic economic relations. Before coming to Washington DC, Phil has worked in the Cabinet Office, Foreign Office and British Embassy in Vienna on a range of European, economic and high-tech topics. He has a doctorate in international political economy.

Joshua Mandell – Senior Science & Technology Officer

Prior to joining the Embassy in 2003, Joshua Mandell was an environmental scientist and policy consultant to the United States Air Force. Joshua also spent six years in the private sector where he performed services in geology, hydrology, geographic information systems, remote sensing and environmental regulatory policy. He also served in the Office of the Vice President at the White House and the Vice President's National Advance Staff for the 2000 presidential election. Josh earned his degree from George Mason University in Fairfax, Virginia.

Jonathan Temple – Policy Advisor, Energy & Environment and Science & Technology

Jonathan advises on a full range of energy policy issues including energy technology development and energy markets. Jonathan has worked in the Embassy since 1988 and prior to that worked in UK nuclear sector.

Atlanta

David Muller – Vice Consul (Science & Technology)

David joined the Consulate-General in Atlanta in May 2004. Prior to joining the British Consulate, David held a management position at an international energy corporation based in Atlanta. David is a native of Idaho and graduated from Albertson College of Idaho with a Bachelors of Science in biology with a minor in chemistry. David relocated to Atlanta for graduate study in microbiology and molecular genetics at Emory University.

Boston

Mark Sinclair – Consul (Science & Technology)

Mark has a BSc in Engineering Science and an MBA from Imperial College, specialising in entrepreneurship. He spent much of his previous career with the Ministry of Defence, leading a research team, as a customer for the strategic research programmes and as private secretary to the Defence Chief Scientific Adviser. He moved to the Office of Science & Technology where he was assistant director for science and technology strategy. He arrived in Boston in November 2001.

Stefan Winkler – Vice-Consul (Science & Technology)

Stefan has a PhD in Biotechnology Engineering from Tufts University and joins from the technology consultancy Arthur D Little where he was manager of biotechnology R&D. In his spare time, Stefan also teaches undergraduate and graduate students in bioengineering at Tufts University where he holds an adjunct faculty position. He joined the Boston team in May 2002.

Neelangi Gunasekera – Science & Technology Assistant

Neelangi has a BS in Journalism and MA in Communications from Illinois State University. Previously, Neelangi worked in Investor Relations at Weber Shandwick in Chicago and then at RepliGen Corporation in Massachusetts. She joined the Network in May 2003.

Houston

May Akrawi – Vice-Consul (Science & Technology)

May has a BSc in Biochemistry and PhD in Molecular Biology, both from University College London (UCL). She has worked as a science analyst for a major law firm, and most recently set up the European office in London for a US biotech company, In Vitro Technologies. She also worked with the Wellcome Trust on the ”Public Understanding of Science’. May joined the British Consulate-General in Houston, in April 2002, to set up the S&T section. The Houston S&T team covers Texas, Colorado, Louisiana, New Mexico, Arkansas and Oklahoma.

Catherine Santamaria – Science & Technology Assistant

Catherine joined the British Consulate-General in February 2005. A German major at The Colorado College, she later moved to Tokyo, Japan to teach English at a private conversation school. She also worked in a Japanese business software company. Returning to Houston in 2001, Catherine later worked at the Houston World Affairs Council, an educational non-profit dedicated to promoting education and awareness of international issues and U.S. foreign policy.

Los Angeles

Malcolm McLean – Vice-Consul (Science & Technology)

Malcolm holds a BSc, MS & PhD in Inorganic Chemistry, spent two years working as a Ministry of Defence scientist in the UK, then four years as a post-doctoral researcher on polymers and optoelectronics at the University of Southern California. He spent four years Vice President of Technology at Harvey Universal (Environmental Products), four Years as CEO of a small, privately held environmental technology company, International Ecoscience and three years running his own business selling into the Japanese market. He arrived in Los Angeles in April 2002.

Jennifer Boynton – Science & Technology Assistant

Jennifer obtained a BA Honors in Sociology at Pitzer College, California. She joined the S&I Network in August 2003. Her main responsibilities include organizing events and receptions, briefing the Vice-Consul on UK and US policy developments, identifying opportunities for research collaboration, and representing the US S&I Network at official meetings.

San Francisco

Sharima Rasanayagam – Consul (Science & Technology)

Sharima obtained a PhD in Microbiology at the University of Kent at Canterbury, and spent three years as a post-doctoral researcher at Long Ashton Research Station and Lancaster University. She joined the Cabinet Office in 1996 and worked in a variety of roles including as a Private Secretary to a Minister, on the BSE Inquiry, in the Performance and Innovation Unit and most recently on energy and transport policy in the Cabinet Secretariat. She arrived in San Francisco in October 2001.

Stephen Lynn – Vice-Consul (Science & Technology)

Stephen obtained his PhD in Molecular Physiology at the University of Newcastle upon Tyne, and spent four years as a post-doctoral researcher working on the genetics of diabetes. In 2001, Stephen moved to the University of California, San Francisco to study mechanisms involved in neurodegeneration associated with ageing, and in September 2002, he moved to Stanford University to

complete his studies in the Neurology and Neurological Sciences department. He took up his post as Science and Technology Vice Consul in November 2003.

Doreen Reid – Research Assistant, Science & Technology

Doreen took up her position at the British Consulate in March 2004. Before joining the Network, she worked for Scottish Development International (SDI), Scotland's economic development agency, where she had responsibility for a portfolio of 63 predominately high-tech companies located throughout North America. She graduated from the University of Glasgow, Scotland in 1989 with an MA joint honors degree in French & German.

Australia

Canberra

Fiona Ratcliff – Science & Innovation Officer

Fiona began as Science & Innovation Officer in April 2005. Before joining the team, she worked at the Federation of Australian Scientific and Technological Societies where she organised a series of meetings between scientists and politicians in an effort to foster closer relations. Fiona has also worked at Questacon – Australia's National Science and Technology Centre, and has also managed a biology outreach programme for school children. She is currently completing a Master of Science Communication degree and also holds a degree in neuroscience.

Jade Sharples – Science & Technology Officer

Jade obtained a PhD in plant physiology from the University of Western Sydney in 2000. A significant part of her PhD research was performed at the Institute of Terrestrial Ecology, Huntingdon UK. On completion of her thesis, she relocated to Canberra to take up a postdoctoral fellowship at the Australian National University to focus on the effect of climate change on plant-soil interactions. Jade then became an intellectual property analyst, where she researched the numerous forms of intellectual property protection used to on scientific techniques and invention with an emphasis on biotechnology and agriculture. Jade is currently completing her Diploma in Law and took up the new S&T post in Canberra in June 2004.

China

Beijing

Robin Porter – Counsellor (Science & Innovaton)

Robin has 35 years experience as an academic China specialist in the UK, Canada and Australia, most recently as Professor of Asian Business at La Trobe University. His PhD from SOAS focused on China's early industrialization, and publications include books and articles on the modern development of both China and Hong Kong. He has previously worked in China, and was for several years full-time adviser to a major UK industry on technology transfer to China.

David Concar – First Secretary (Science & Innovation)

David joined the FCO in 2004 after a career in the media. He was Deputy Editor of the New Scientist from 1996 to 2004, and the magazine's Life Sciences Editor from 1991 to 1996. From 1989 to 1991 he worked for the journal Nature, first in London and then in Washington DC. In 2000 David spent a sabbatical year working as a radio and TV science correspondent at the BBC in London. In 2003 he set up a TV production co-venture for the New Scientist which co-produced programmes for the Discovery Channel and Channel 4. David has a PhD in what used to be called biochemistry.

Du Ying – Senior Project Officer (Science & Innovation)

Mrs. Du holds the degree of Bachelor of Law from Peking University. She worked for a number of years for the Chinese Ministry of Foreign Affairs, initially as Third Secretary in the Chinese Embassy in Suriname, and then as Second Secretary in the Netherlands. She first joined the British Embassy in 1996 as a senior commercial representative, and transferred to the science and technology operation in 1998. She is currently Senior Project Officer in the S&I Section, Beijing.

Helena Ou – Administrator and PA to Counsellor (Science & Innovation)

Helena is a graduate of Southwest University in Chongqing, and is currently engaged in a Masters programme part-time. She previously worked for the Ethiopian Embassy, and then for the multinational company Lucent Technologies for several years prior to joining the Science & Innovation team in Beijing in 2003.

Katy Fu – Project Officer (Science & Innovation)

Katy graduated from North China Electric Power University with a Bachelor degree in International Trade. Her work experience started with a Visa Officer job at New Zealand Immigration Service. Later she worked as Culture Exchange Co-ordinator in Japan. She first joined the British Embassy in July 2003 as Entry Clearance Assistant, and transferred to the science and innovation operation in May 2005.

Shanghai

Nick Khosla – Consul (Science & Technology)

The FCO appointed Nick in February 2004. He is a chartered engineer and he holds a BSc degree in Engineering from the University of Wales and a MSc from Birmingham University. Previously, Nick worked internationally on major engineering and environmental projects in the Private Sector, and worked as a Trade Adviser with the DTI. In July 1999, Nick worked as Trade Commissioner (Projects) at the British Consulate-General Hong Kong.

Anna Lindahl – Senior Project Officer (Science & Innovation)

Anna joined the Embassy in Beijing in June 2002. She has studied and worked in China for close to four years, among other places in Beijing, Chengdu and Shanghai, and has travelled extensively all over the country. She transferred to the Consulate in Shanghai in May 2003 to manage S&T projects for Think UK. From April 2004, Anna became a permanent member of staff at the Consulate in Shanghai. Anna has BA and BSc degrees from Stockholm University.

Frank Yuan – Senior Project Officer (Science & Innovation)

Frank studied architecture at Tsinghua University in Beijing(B.Arch) and social science at the London School of Economics(M Sc). He joined the British Consulate General in Shanghai in 2002. Frank worked on a number of science-related projects before joining the Consulate, including the Shanghai Science and Technology Museum and a science park. He has worked on a number of reports /events of various topics and been building network of contacts for the S&I section in Shanghai.

King Kong – Project Officer (Science & Innovation)

King is a graduate of Shanghai Jiaotong University, where he majored in Electronic Engineering. He also developed a deep interest in marketing. After working on several projects for an advertising company, he joined the British Consulate-general in Shanghai in 2004 as a campaign co-ordinator for the 2005 UK-China Partners in Science initiative.

Bronte Zhang – Project Officer (Science & Innovation)

Bronte joined the S&I network in Shanghai in 2004, having previously worked in the British Consulate-General's Visa Section as an Entry Clearance Officer. She holds a BA degree in Economics.

Chongqing

Grace Lang – Senior Project Officer (Science & Innovation)

Grace first joined the British Consulate General in 2003 and transferred to the S&I network in September 2004. She holds an MA (Hons) from the Sichuan International Studies University (SISU) in China. Before joining the Consulate, she worked as a lecturer in SISU.

Guangzhou

Nigel Birch – Consul (Science & Innovation)

Nigel joined the Network in May 2005 as Consul for Science & Innovation in Guangzhou, the first science post there. He graduated with a degree in botany from the University of Wales, Bangor and his first job was in tsetse control in Zambia. Since then he has had a long career with the UK

Research Councils managing a wide variety of science and engineering programmes, most recently being involved in EPSRC's ICT Programme, its international group and managing relations with institutions in the East of England.

Adee Zai – Science & Innovation Officer

Adee joined the newly-established Science and Innovation Section in the British Consulate-General in Guangzhou in May 2005. She holds a Masters degree with Distinction from Aberdeen University in Information Technology, and has recently completed an MSc by thesis for the University of Warwick in E-Business. Prior to joining the Consulate she was involved in a B2B e-business project, initiated by the Inter-Lean E-Business Centre in Coventry, to create a West Midlands Collaborative Commerce Marketplace.

India

New Delhi

Sarah Bamber – First Secretary (Science & Innovation)

Sarah has been First Secretary (Science & Innovation) in New Delhi since the middle of 2004. Upon completion of a degree in Geography at Oxford University Sarah joined the FCO in 1996. Her first posting was to the UK Mission to the United Nations in New York.

Thomas Mark Tomlinson – Second Secretary (Science & Technology)

Mark joined the Network in August 2002. He has a BSc in Physics from Southampton University. Before joining the Foreign & Commonwealth Office, Mark spent several years in the private sector, including working on an environmental impact survey for the new Hong Kong airport. Prior to India, his diplomatic career has seen him serving in Mozambique, Saudi Arabia and Yugoslavia.

Shweta Datt – Science and Technology Assistant

Shweta joined the S & T section in September 2003. Shweta has studied Commerce at University of Delhi. Before joining British High Commission, New Delhi, Shweta worked in the travel industry for ten years.

Swati Saxena – Science & Technology Officer

Swati joined S&T Section of British High Commission, New Delhi in August 2003. She has a Masters in Genetics from Delhi University. Before joining, she worked in Monsanto's regulatory department where she handled the regulatory aspects of commercialisation of genetically modified crops in the country. She also has been involved in giving talks to senior school students on rudiments of biotechnology and applications of agricultural biotechnology.

Bangalore

Amrita Sadarangani – Science & Technology Adviser

Amrita joined the British Trade Office in Bangalore in February 2003. Her background in the life sciences includes a MSc in Biochemistry and two years of research work on the molecular biology of cancer. Amrita also has experience in healthcare communications: before joining the S&I Network she worked for Ogilvy Public Relations Worldwide, Mumbai servicing medical and healthcare clients.

Bangalore

Soffia Dayel – Science & Innovation Adviser *(from May 2005)*

Japan

Tokyo

Barbara Ellington – Counsellor (Science & Innovation)

Barbara has a degree in Natural Sciences from Cambridge University and an MBA from the London Business School. Her career has included work on higher education policy in the UK and science and technology policy for the Government of Hong Kong.

Philippa Rogers – First Secretary (Science & Technology) *(Counsellor from May 2005)*

Philippa has been working for the S&T network since 1997, first in Washington and then Tokyo. Philippa has responsibility for life sciences and nanotechnology. Prior to joining FCO, Philippa worked for the UK Research Councils for 12 years.

Paul Johnson – First Secretary (Science & Technology)

Following an early career in overseas oil exploration and geotechnical consulting, Paul became Head of the Department for Transport's (Highways Agency) Forward Planning and Technology team. Between 1999 and 2001 he was seconded to the Japanese Ministry of Transport researching intelligent transport systems. Paul has responsibility for energy, environment, transport and information and communication technologies.

Tadashi Shirai – Senior Science & Innovation Officer

Tadashi has a BSc in Physics. His responsibilities include monitoring and reporting on developments in information technology, telecommunications, electronics and space and marine science. Tadashi joined the British Embassy in 1974 and is the longest-serving member of the S&I Section.

Yaeko Mitsumori – Senior Science & Technology Officer

Yaeko's responsibilities include monitoring and reporting on Japanese industry developments and governmental regulations in life sciences. She has a Master's Degree in Public Administration from the John F. Kennedy School of Government at Harvard University. Before joining the British Embassy in 2003, she worked as a journalist at major newspapers and wire services.

Ryozo Tanaka – Senior Science & Innovation Officer

Ryozo joined the S&I Section in April 2005. His responsibilities include monitoring and reporting on energy & environment, chemicals and nanotechnology. Before joining the Embassy, he worked as a civil engineer mainly in energy related fields such as nuclear power plants and hydrogen refueling stations. He also worked as a researcher at the Ministry of Trade, Economy and Industry, monitoring the world oil market.

Katie Harrison – Global Opportunities Fund Programme Manager

Katie joined the Embassy in September 2003 to manage the Innovation UK campaign. She had previously worked for Swiss Re in Corporate Communications in London and New York. Katie now manages the Embassy's Global Opportunities Fund Programme on climate change, energy and sustainability.

Seiko Oya – Science & Innovation Officer

Seiko Oya joined the S&I Section in 1995 and is responsible for organizing visit programmes for GlobalWatch mission teams and individual UK visitors including VIPs, and for arranging seminars mainly on environment and engineering issues.

Tomoko Watanabe – Science & Innovation Officer

Tomoko joined the S&I Section in August 1996. Her responsibilities include assisting in the transfer of information and technology between Japan and the UK, organizing visit programmes for VIP visitors, compiling programmes for seminars and workshops for visiting UK scientists and dealing with S&I enquiries from the UK and Japan.

Kaoru Kambe – Science & Technology Officer

Kaoru joined the Embassy in October 1997. Her responsibilities include organising Global Watch Missions and other academic/VIP visitors' programmes and arranging seminars. She also keeps the section's webpage (news bulletin) up to date and distributes Japanese S&T newsletters and section reports to UK customers.

Yumiko Amma – Science & Innovation Officer

Yumiko joined the Embassy in August 2002 after working for the National Museum of Emerging Science & Innovation as an international collaboration officer. Her role includes support for the S&I Counsellor, organisation of VIP visitors' programmes and coordination on EU-related matters.

Yumiko Yamashita – Science & Innovation Assistant

Yumiko joined the S&I section in November 2004. She has a BA in English and American literature, and previously worked at the Norwegian Embassy in Tokyo.

Osaka

Ed Wright – Consul (Science & Innovation) *(First Secretary, Tokyo, from May 2005)*

After taking a PhD in Organic Chemistry in 2000, Ed received a Daiwa Anglo-Japanese Scholarship to study Japanese in Tokyo for 2 years. While in Japan, he undertook a 6 month work placement at the Japanese Pharmaceutical Manufacturers Association before returning to the UK to work as a technology investment analyst. Ed took up post in Osaka in June 2004.

Chika Motomura (Assistant to Consul)

Chika Motomura joined the S&I section in Osaka in May 2004. She previously worked for the Spanish Embassy in Tokyo.

Singapore

Singapore

Brian Ferrar – First Secretary (Science & Technology)

Brian spent most of his early career in the UK Department of Energy. He joined DTI in 1992 and was part of the team responsible for the privatisation of AEA Technology plc. From 1996 to 1999 he was Assistant Director of the Foresight Programme in the OST responsible for Health and Life Sciences, Materials, Chemicals and Manufacturing. He then became Head of the DTI's International Technology Service where he was Chairman of the UK-Russia High Technology Working Group and responsible for the establishment of the UK-Israel BRITECH Foundation. In 2000 Brian joined the British Embassy in Tokyo and moved to his current position in Singapore in January 2004.

Vanessa Choo – Science and Technology Officer

Vanessa joined the S&T Section in Singapore in April 2004. She is a graduate in Life Sciences from the National University of Singapore (NUS). During her studies she undertook a number of short-term jobs including at a Women's clinic. She also studied international business issues in Germany and Professional Communications at the NUS.

Peter Clusky – Deputy Director Science & Technology (April – November 2005)

Pete joined the team in Singapore in late April 2005 on an Overseas Attache Training Scheme attachment from UK Trade and Investment where he works as an International Trade Adviser based in Exeter covering Devon and Cornwall. Prior to joining UKTI Pete worked in the private sector, then as a rural economist for the Farming and Rural Conservation Agency, before spending 3 years doing regional policy work on food and rural business in Government Office for the South West. Pete will be spending much of his time establishing and managing the team's Sports Science and Engineering six month exhibition.

Christopher Tan – Senior Science & Technology Officer

Christopher joined the S&T Section in Singapore in May 2005 as a Senior Science & Technology Officer. His responsibilities include promoting the UK as the international partner of choice in S&I collaboration and promoting capacity building in developing countries in SE Asia. He received an MBA from Nottingham University, a Masters in Health Services Management from Flinders University and a BEng in Chemical Engineering from UMIST (now Manchester Univ). Prior to the work in the S&T section, he was working in the region, including Malaysia and China.

Republic of Korea

Seoul

Jim Thomson – First Secretary (Science & Technology)

Jim has been in Seoul since March 2001. The S&T team is widely known for its dynamic and innovative approaches to promoting collaboration with Korea in high impact areas. He has integrated the group to work closely with his investment, commercial, economic and press and public affairs colleagues, and is shaping its agenda to match Korea's rapidly evolving fundamental science capabilities. Jim came to Korea from the Ministry of Defence. He has also worked for GEC and at Farnborough, on aerospace R&D. He graduated from Oxford in Engineering Science, has PhD from Cambridge, and is a Chartered Engineer and a Fellow of the Institution of Electrical Engineers.

Kyejin Chay – Senior Trade and Science & Innovation Officer

Kyejin is responsible for the team's work in biotechnology, pharmaceuticals, energy & environment. Her activities include fundamental science, business development and science and environmental policy, for example on reproductive cloning, GMO, climate change and development of new and renewable energy. She has extensive experience within the Embassy which she brings to bear over the whole range of her work such as arranging joint seminars with the German Embassy. She has a BA in Chemistry from Ewha Woman's University and spent 8 months as a junior researcher at the Organic Synthesis Laboratory of the Korea Institute of S&T (KIST). She was awarded an Honorary MBE in 2004.

Youngsun Soh – Senior Science & Innovation Officer

Youngsun was the first full time S&T Officer in the British Embassy. With the expansion of the team she is now responsible for the broadening science agenda and our new Science, Technology and Innovation Partnership. In ICT, electronics and games software she has full commercial responsibility and works closely with investment colleagues. In 2002 she received the D Group Gold Medal for exceptional and sustained delivery in support of UK exporters. Youngsun studied English Literature and Linguistics at Hankuk University of Foreign Studies, Seoul, Korea, including 6 months spent on exchange at the University of California at Berkeley. She was awarded the BA in 1991, following which she worked for a leading law firm for three years.

Hyeyoung Kim – Science Development Officer

Hyeyoung joined the team in August 2004. She is responsible for developing and expanding collaboration between UK and Korea in science, technology and innovation. She is also responsible for the Science & Innovation content of the embassy websites. She graduated from Sogang University in 1997 with an MBA. Past experience includes working at Templeton Asset Management Ltd and the Australian Embassy in Seoul.

Mijeong Lee – Deputy Trade and Science & Innovation Officer

Mijeong joined the team in June 2003. She is responsible for commercially oriented work in environment, healthcare, biotechnology and instrumentation, providing

business prospects and commercial opportunities in Korea to UK customers. Her current job also involves supporting inward and outward missions and organising exhibitions and seminars in related industries. Mijeong graduated from the University of Essex in 1996 with a BA in Language Studies. She has previously worked for the Korean Broadcasting System and a leading law firm in Seoul.

Mikyung Park – Deputy Science & Innovation Officer

Mikyung joined the team in September 2003. She is responsible for commercial work in ICT, electronics and software and arranging both commercial visits and scientific missions. Mikyung has a Master's degree in Environmental Architecture & Landscaping from the Grate School of Seoul National University, Seoul, and a BSc in Housing Environment from Yonsei University, Seoul. She has experiences of working in several multinational companies in Seoul, and spent one year on English language and internship training in Canada from 1999-2000.

Taiwan

Her Majesty's Government does not recognise Taiwan as a sovereign state and consequently does not have diplomatic relations with it. However, there is a non-governmental trade and cultural office, with Science & Technology officers working there.

Taipei

Chong-Loon Tai – Senior Science & Technology Officer

Chong-Loon graduated with a MSc in engineering from the University of California at Berkeley. After returning to Taiwan, he spent most of his career in sales and marketing of IT and communication systems with IBM, AT&T and Siemens before joining British Trade and Cultural Office in 2004.

Jeremy Lin – Science & Technology Officer

Jeremy graduated with a masters in molecular biology from New York University. On his return to Taiwan he spent eighteen months working as a research associate at Academia Sinica – the most prominent academic institute in Taiwan. Jeremy joined the S&T team in Taipei in Aug 2001. As a deputy officer he supports the Senior S&T officer in policy reporting and sectors briefing as well as seeking opportunities for technology collaboration between UK centres of excellence and Taiwanese industry and researchers.

Ginell Hsu – Science & Technology Assistant

Ginell holds a BA degree in International Trade. She joined the S&T team in February 2001 having previously worked in the BTCO visa-handling unit and in the private sector for 2 years. Ginell is responsible for assisting the S&T officer in organising promotional events (seminars, exhibition and visits) and uses her in-depth knowledge of various IT related industries and experience in bringing together high tech companies and researchers from UK and Taiwan.

Czech Republic

Prague

Otakar Fojt – Science & Technology Officer

Otakar took up the newly created post of S&T Officer in Prague in October 2003. He studied Biomedical engineering and obtained a PhD for his research in chaos theory. He previously worked as a specialist on international projects at Brno University of Technology and as Managing Director of a small technological company, Sincotron. His experience gained while working as a postdoctoral Research Fellow at the University of York and at the Fields Institute in Toronto on industrial projects for Nortel Networks provided valuable knowledge for his current position.

Denmark

Copenhagen

Mogens Olsen – Science & Technology Officer

Mogens graduated with a MSc in electronic engineering from the Technical University of Denmark. He has 17 years business experience from Philips Denmark, Philips Australia, RE Technology and Peek Traffic. He has had various positions as engineer, systems manager, development manager, marketing director and managing director. From 1995-97 he worked as investment manager with Danish Development Finance Corporation, responsible for investments in IT, software and electronics. From 1997-2003 Mogens took on an assignment as Technology Attaché at the Royal Danish Consulate General in Los Angeles. Mogens joined the British Embassy in Copenhagen in May 2003.

France

Paris

Hugh Elliott – Counsellor (Global Issues)

Hugh began work as Counsellor for Global Issues in Paris in September 2002. He previously headed up the Political, Economic and Press Section of the British Embassy in Buenos Aires. His background prior to that job has been as an EU specialist, with a degree in French and Spanish and jobs in the FCO covering a broad range of EU issues.

Helen Dickinson – First Secretary (Science & Technology)

Helen joined the Paris team in March 2003 from the DTI. At the DTI she worked in space policy and export controls before spending time on secondment to the Parliamentary Office of Science and Technology, where she acted as Physical Sciences and Information and Communications Technology advisor. Prior to joining the DTI Helen spent several years in physical chemistry research.

Stephen Flanagan – Science & Technology Officer

Stephen obtained a PhD in molecular virology in 1992. He has worked as a technical advisor to an American Biotech company, and for a number of well-known pharmaceuticals companies. He has a PGCE (High School Science Teacher) diploma in the UK and he maintains an active interest in presenting science to young people. Stephen joined the Embassy in June 2003 as a locally-engaged member of staff.

Dara Brice – Senior Science & Innovation Officer *(from May 2005)*

Kathy Carvalho – Science & Technology Assistant

Kathy originally came to Paris in July 1990 on a secondment posting with the Ministry of Defence (MOD). In May 1996, after 4 years in Paris, she left the MOD and returned to the Embassy as a locally-engaged member of staff.

Germany

Berlin

Alison Pring – First Secretary (Science & Technology)

Alison arrived in Berlin in August 2004. She was previously Deputy Director, Trade & Investment in Berne, where she worked closely with her S&T colleagues. Alison studied German and French, joining HM Diplomatic Service direct from university. She has also had postings to Brussels, Caracas and St Petersburg, and has experience of a wide range of diplomatic work.

Ursula Roos – Science & Technology Officer

Ursula has an MSc in Translating / Interpreting and a PGDip in Economics. She joined the German S&T team in September 1996. One of her key priorities is biotechnology. She also covers bioethics, federal research policies, budget issues, and technology assessments. Ursula has been involved several missions since 1998 looking into biotechnology, microsystems engineering, nanotechnology, and oncology.

Heike Hammelehle – Science & Innovation Assistant

Heike joined the Berlin S&I team in August 2004 on a part-time basis. Before that she worked as an assistant for international companies in Germany, Switzerland and Colombia.

Munich

Steve Plater – Counsellor (Science & Technology)

Steve has been in Munich since December 2003. His FCO experience includes promotion of exports (in Japan) and inward investment. He added to his MA in languages a BSc from the Open University (2001). As Consul-General in Munich he is charge of trade and investment promotion, consular and other work in Bavaria. As Counsellor he has oversight of the Germany S&T team.

Muzinée Kistenfeger – Science & Technology Officer

Muzinée, a graduate of the Ludwig Maximilian University in Munich, has a decade-long background in foreign languages journalism. She joined the German S&T team in April 2001. Muzinée is the team's expert on Southern German science & research, concentrating on the high-tech Länder of Bavaria and Baden-Württemberg.

Italy

Rome

Ashley Prime – First Secretary (Social/Science & Technology)

Ashley joined the British Embassy in Rome in March 2003 with responsibility for S&T, Social and Labour Affairs, and Commercial and Trade relations. Most recently, he worked on the USA desk in the FCO. Before that he served in China in Beijing and

Guangzhou as well as working in London identifying and attracting Chinese inward investment to the UK. He has also served in Italy at the Consulate in Milan and as the Press Officer at the Embassy in Rome.

Laura Nuccilli – Science & Technology Officer

Laura has a Degree in Political Science from the University of "La Sapienza" in Rome and an MA in Mass Communication from Leicester University as a Chevening Scholar. Before joining the Embassy, she worked in the Italian Parliament as a Parliamentary Assistant with the Green Group dealing with issues such as sustainable development, biotechnology and GMOs.

Milan

Alessandra Ferraris – Science & Technology Officer

Alessandra took up her post as S&T Officer at the British Consulate General in March 2002. She holds a Degree in Chemistry and Pharmaceutical Technology from the University of Pavia. She has 6 years of research experience. Prior to joining the Consulate she worked for a major Italian pharmaceutical company managing R&D projects in the area of respiratory disease therapy.

Poland

Warsaw

Izabela Van den Bossche – Science & Technology Officer

Izabela joined the Embassy in May 1998 as a Press Officer. In January 2000 she moved to the Chancery team to report on internal political developments and eventually to run a regional initiative helping the Polish regions prepare for Structural Funds absorption and facilitating contacts with their UK counterparts. Since December 2004, she has deals with science and technology. She has graduated from English Language Department at Poznan University and also studied Political Sciences. Previously worked for Alcatel in Belgium and for BOC Ltd. in Poland.

Russian Federation

Moscow

David Vincent – First Secretary (Science & Technology)

David joined the British Embassy in April 2005 from the DTI. Prior to Moscow, David was the Director of the UK-Russia Closed Nuclear Cities Partnership, a nuclear non-proliferation programme forming part of the UK's contribution to the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. His background is in managing programmes of cooperation with Russia, Kazakhstan and other countries in the fields of nuclear safety and security.

Mikhail Lachinov – Science & Technology Officer

Mikhail joined the British Embassy in September 2004 after moving back to Russia from Canada where he worked as a research engineer for high-tech fibre optic instruments company JDS Uniphase in Ottawa. Mikhail holds graduate degrees from Moscow Engineering Physics Institute and University of British Columbia, Vancouver.

Liya Korobova – Science & Environment Officer

Liya joined the British Embassy in 1994. Prior to this she was a DFID Environment Officer. Her responsibilities include environment and life sciences. She is a graduate of Moscow State Linguistic University.

Sweden

Stockholm

Alice Hague – Second Secretary (Science & Technology)

Alice joined the British Embassy in Stockholm in April 2003 filling the brand new position of S&T Officer there. Previously she worked as an Education Officer in a Science Centre in Dundee and in the Royal Society, Edinburgh. Alice has a degree in Applied and Environmental Biology and a Masters in Communicating Science.

Sofia Norberg – Science & Technology Officer

Sofia joined the Science & Innovation team at the British Embassy in Stockholm in September 2004. Previous work experience has been managing projects for the Stockholm universities and local organisations focusing on S&T issues including knowledge transfer and public understanding of science. In 2004 Sofia worked in the secretariat for the first EuroScience Open Forum (ESOF2004) held in Stockholm and with the Swedish "Science and Society" association. Sofia has a BA in Political Science from Södertorn University College, and a MSc in Science and Technology studies from the University of Amsterdam.

Switzerland

Berne

Bernhard Sander – Science & Technology Officer

Bernhard joined the Embassy in Berne from the private sector in 2001. His background is in applied physics, applied chemistry and engineering with first degrees from London's Imperial College of Science and Technology followed up by a PhD from the University of the Witwatersrand. In Switzerland and abroad, Bernhard has worked for engineering, tunnelling and management consultants.

Michael Tomsett – Science & Technology Adviser

Michael has a degree in international business and languages from the University of Strathclyde in Glasgow and previously worked with an international marketing and management consultancy based in Scotland. He first came to Switzerland in 2001 for an exchange year at the University of Berne and has been in the Embassy S&T team since November 2003

The Netherlands

The Hague

Leo Zonneveld – Science & Innovation Officer

Leo was appointed S&T Officer in The Hague in 2001. Most of his 30 years' working life at the Embassy has been in high technology partnering, serving the UK and Dutch commercial and research world and covering disciplines such as post-genomics, nanotechnology and ICT. Leo is Honorary Professor at the Faculty of Psychology and Social Sciences at the University of Flores in Buenos Aires and was granted a Maltese Order in 1991. Educated at Leiden, the Netherlands, with qualifications in philosophy, he has done and continues to do academic work in a private capacity with the UN, UNESCO, Georgetown University, Warsaw University and the Max Planck Institute.

Cheryl Kirk – Science & Innovation Assistant

Cheryl joined the Embassy in June 2000, but only became part of the Science & Innovation Unit in 2005. Her work portfolio at the Embassy has included working as PA to the Economic and Trade & Investment Counsellor and Systems Administration. Cheryl has worked at many overseas missions for the FCO, including Yaoundé, Havana, Lisbon, Nairobi and San Francisco.

Israel

Tel Aviv

Adee Matan – Science & Technology Officer

Adee received her PhD from the department of Brain and Cognitive Sciences at MIT. She also has a BSc in Computer Science and studied Linguistics for her MA. She has worked in product management and R&D for companies in the fields of machine translation, workforce management and e-commerce. Adee took up the S&T post in Tel Aviv in January 2002.

South Africa

Pretoria/ Johannesburg

Thandiwe Moutlana – Science & Technology Officer

Thandiwe has recently been appointed the first Science & Technology Officer (STO) in South Africa. Before joining the FCO, she held the position of chemical engineer and technical project leader in Process Biotechnology at CSIR Bio/Chemtek. Thandiwe studied in the USA at the Massachusetts Institute of Technology (MIT) and graduated with a BSc in Chemical Engineering. She gained research experience in (bio)chemical engineering through MIT and University of Cape Town (UCT), where she conducted research in aspects of nanotechnology, bioleaching, fermentation and biotechnology.

ANNEX 3

Science & Innovation Network

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