

... Working for the Future of UK Stem Cell Research

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INTRODUCTION FROM LORD PATEL



A very warm welcome to this second issue of the **UK National Stem Cell Network** newsletter. In our inaugural newsletter, I wrote a few words on the objectives and aspirations of the Network and what it hopes to achieve in its first two years for the UK research community. Now is the time, perhaps, to reflect more closely on what the

UKNSCN has delivered for you after its first 15 months of operations – and where better to start than the UKNSCN’s inaugural Annual Scientific Conference which took place at the Edinburgh Conference Centre, Heriot-Watt University from 9-11 April. This was the UKNSCN’s first opportunity to showcase and celebrate the latest and best in UK stem cell science and its related disciplines, a core feature of the overall mission given to UKNSCN by Sir John Pattison in his December 2005 report under the Government’s UK Stem Cell Initiative. Judging by the feedback we have received so far, I know many of you agree that we achieved

this with 360 delegates in attendance and speaker sessions covering everything from adult stem cell research to social science and tissue engineering. I know for a fact that there are now some cross-disciplinary collaborations in place which were not there before the conference took place – QED, one might say! We were delighted to host internationally recognised keynote speakers from overseas who included Christine Mummery from the Netherlands, Willy Lensch from Boston Children’s Hospital (George Daley’s laboratory) and David de Kretser from Australia who was responsible for establishing the highly successful Australian Stem Cell Centre. In particular, may I take this opportunity to publicly thank Christine Mummery for delivering her magnificent Dame Anne McLaren Memorial Lecture, a very fitting inaugural tribute to the life and times of Anne which we hope to see repeated at each subsequent UKNSCN conference. UKNSCN will invite a world-class female researcher each year to deliver this prestigious lecture. May I also thank you as a stakeholder in UK stem cell research for your attendance, speaking contributions and exhibitor support with respect to the conference. You made it what it was, and UKNSCN looks forward to welcoming you back to its second conference in Oxford from 6-8 April 2009 as we begin to rotate the meeting around UK cities hosting recognised centres-of-excellence in stem cell science. UKNSCN acknowledges the sponsorship provided for the inaugural meeting by AstraZeneca, the Scottish Stem Cell Network and the Victoria State Government, Australia.

Lord (Naren) Patel of Dunkeld

UKNSCN MISSION

The **UKNSCN** was established in July 2006 to promote and improve the coordination of research across the sub-disciplines of stem cell science, thereby enhancing basic research and helping to speed its translation towards therapeutic applications.

UKNSCN’S SECOND ANNUAL CONFERENCE ANNOUNCED!

UKNSCN’s 2009 annual scientific conference will take place in the beautiful city of Oxford from 6 - 8th April 2009 - please book the dates in your diary!

Registration will open in September and will include accommodation in the stunning Oxford colleges.

UKNSCN OBJECTIVES

As a reminder, we have five top-level objectives shown in the box below.

1. The coordination of existing activities through the sharing of expertise and technology;
2. The establishment of the Network as the national focal point for communication with the media and the public;
3. The establishment of the Network as the national focal point for interaction with overseas researchers seeking collaboration;
4. The establishment of the Network as the “national voice” to policymakers and regulators;
5. The facilitation of interactions to promote uptake and use of stem cells by the scientific, business and medical communities, particularly in the areas of tissue engineering and regenerative medicine.

THE UKNSCN STEERING COMMITTEE

Lord (Naren) Patel of Dunkeld (Independent)
Professor Sir Martin Evans, University of Wales, Cardiff
Professor Jon Frampton, University of Birmingham
Professor Michael Whitaker, Newcastle University
Professor Roger Pedersen, University of Cambridge

Professor Brian Salter, Kings College London
Dr Chris Mason, University College London
Professor Dame Julia Polak, Imperial College London
Mr Hugh Ilyine, Industry Consultant (Independent)

The inaugural Steering Committee was appointed in December 2006 for one year in the first instance, with the probability of extension to two years. Beyond December 2008, it is expected that a proportion of the membership will be renewed every two years so that, in time, a wide range of experts in stem cell research and its related disciplines will be given the opportunity to serve in the UK's national interest.

FROM THE NETWORK OFFICE....

The UKNSCN office is based at the Biotechnology and Biological Sciences Research Council (BBSRC) at the UK Research Councils' campus in Swindon, Wiltshire. It was established in October 2006 with my appointment as Coordinator. A great deal has happened since I reported under this column in UKNSCN's inaugural newsletter last December, not least of which was the first Annual Scientific Meeting in Edinburgh on 9-11 April. I would like to add my thanks to those of Lord Patel, expressed in his opening remarks, for all your contributions as speakers, exhibitors, poster presenters, delegates and

sponsors which made the meeting an undoubted success. We have just announced the date and venue for the second conference in 2009 and look forward to seeing many of you in attendance again. This will take place in Oxford on 6-8 April 2009 and I invite you to book the dates in your diary. For further information, keep an eye out on the website and for UKNSCN press releases (www.uknscn.org). In the meantime, have a look at the 'at-a-glance' timeline opposite which summarises what the UKNSCN has been doing over the past six months since publication of its first newsletter.





UKNSCN strategic and corporate planning awayday held at the Royal College of Physicians in London; second annual report to the UK Stem Cell Funders Forum (UKSCFF)

Seventh UKNSCN Steering Committee meeting (involving representatives from the regulatory authorities HFEA, HTA and MHRA)

Expansion of UKNSCN publicity folder for ISSCR2008, to include new flyer from the North West England Stem Cell Network (NWSCN) and updated flyers from the Scottish Stem Cell Network (SSCN), the East of England Stem Cell Network (EESCN) and the Northeast England Stem Cell Institute (NESCI)

Inaugural UKNSCN annual scientific conference held in Edinburgh at Heriot-Watt University from 9-11 April, attracting 360 delegates; pre-conference media briefings held at the Science Media Centre in London and at the Holyrood Hotel in Edinburgh; numerous broadcast and print media interviews with speakers and members of the UKNSCN Steering Committee

Eighth UKNSCN Steering Committee meeting; participation in Department of Health review meeting on cord blood collection

Announcement of second UKNSCN national stem cells conference to take place in Oxford (Examination Schools) from 6-8 April 2009; launch of UKNSCN On-Line Discussion Forum; second UKNSCN official newsletter published; UKNSCN represented at the ISSCR2008 annual science conference in Philadelphia, USA

UKNSCN is not just about the annual conference, of course, and I should therefore expend a few words explaining what else the Network has planned in the coming year. This summer, perhaps most importantly, we will publish our first three-year Corporate Plan and one-year Delivery Plan detailing what the Network will do during the next phase of its existence. We are confident of receiving bridging funds from the four sponsoring Research Councils to continue activities into a third year, during which we will organise meetings on early-stage clinical trials for stem cell therapies and intellectual property issues. UKNSCN will also be looking at providing a secretariat for the quality assurance of all types of stem cell likely to be used in therapy, and developing a national strategic plan to help see Sir John Pattison's ten-year vision for UK stem cell research delivered by 2015. This year will also see the launch of the UKNSCN's On-Line Discussion Forum, a web resource which will enable you the community to share expertise and build new collaborations through on-line interaction. UKNSCN may also use this facility to conduct opinion polls and seek feedback during community consultation exercises. UKNSCN will also continue to issue regular e-bulletins to its correspondence list, which now stands at approximately 1000 individuals covering all the numerous stake holders in stem cell research. Please contact me if you wish to be added to the correspondence list.

So there's a foretaste of what you can expect from UKNSCN over the next year. As ever, we are open to your feedback regarding activities you would like to see us pursue at the national level on your behalf. I therefore continue to commend the UKNSCN to you and look forward to working with you further in our crucial endeavour to promote multidisciplinary stem cell research in the UK and help speed its translation into therapeutic applications. Ultimately, you the community will decide how the UKNSCN is run and the activities it undertakes in 2008/9 and beyond, as you provide input to the independent review of UKNSCN which will take place this autumn. This will be commissioned by the four sponsoring Research Councils, when you will be consulted on your views as to what the UKNSCN has delivered so far, what you would like to see it deliver in future, and how you see its mode of operation and funding evolving over the next three years and beyond. Please take the time to respond to the independent consultants leading the review and make your views known! In the meantime, enjoy the articles in this newsletter and I wish you well for the summer months ahead.

Ben Sykes, Coordinator, UKNSCN

INAUGURAL ANNUAL SCIENCE CONFERENCE, EDINBURGH, 9 -11 APRIL 2008



The annual scientific conference is arguably the single most important event undertaken by the UKNSCN, since it goes a long way to fulfilling the Network's central mission to improve the coordination of research across the sub-disciplines of stem cell science. With this in mind, the conference sub-group set out last summer to put together a programme for the inaugural conference which would provide a celebration of the latest and best in UK stem cell science from up-and-coming researchers, and which would cover several disciplines in plenary session. We hope you will agree that this was achieved at Heriot-Watt University in April. With 360 delegates in attendance, 30 trade exhibitors and 85 posters, there were ample networking opportunities and it was certainly a good start from which to build. UKNSCN is planning for expansion to 500 delegates for 2009 when Oxford will be the hosting city from 6 - 8th April.

There were several highlights at the inaugural meeting and, judging from your feedback so far, it seems that the Dame Anne McLaren Memorial Lecture delivered by Professor Christine Mummery was particularly memorable and a most fitting tribute. The conference dinner at the superb Dynamic Earth venue also attracted positive comment. Feedback from delegates also offered some very useful ideas for improvements at our future meetings, and we will adopt some of those ideas as we move forward in planning the 2009 meeting and beyond.



Media coverage of the conference, both on-line and in broadsheet newspapers was significant and it was particularly gratifying to hear delegates express their view that the conference had established new collaborations which were not in place beforehand.



Professor Christine Mummery, delivering the inaugural Dame Anne McLaren Memorial Lecture



The conference dinner at Dynamic Earth



Professor Sir Martin Evans delivering his after-dinner speech at the Dynamic Earth venue

The UKNSCN is grateful to AstraZeneca, the Scottish Stem Cell Network, and the Victoria State Government of Australia for their sponsorship of the conference, and to its event contractor Dynamic Events Ltd for all its hard work. After taking income and sponsorship into consideration, the net cost to UKNSCN in organising the conference was approximately £45k, which amounts to roughly one-third of the UKNSCN's current annual budget of £150k from Research Councils.



Lord Patel, UKNSCN Chairman, introducing the Dame Anne McLaren Memorial Lecture



Dr Willy Lensch, delivering the keynote presentation on the Cycle of Pluripotency

PATENTING IN STEM CELLS

During the first few months of this year, the UKNSCN has been examining emerging legal issues in the patenting of stem cells. This led to parallel workshop held at the UKNSCN's inaugural conference in Edinburgh, convened on behalf of the UKNSCN by Professor Aurora Plomer from the University of Sheffield. Professor Plomer provided an overview of patents already granted in the UK, noting that USA residents hold the highest proportion (36.11%) with just 20.83% held by UK residents. Half of these patents are held by the USA corporation Geron and include foundational patents on hESC derivatives such as cardiomyocytes. Professor Plomer suggested that the low visibility of granted patents may be partly attributable to methodological and practical difficulties in accessing up-to-date and complete patent data on the UK Espacenet database. Accordingly, she made a call for a more open system of access in order to

facilitate public scrutiny of patent claims and to ensure that the patent system discharges its function of enhancing disclosure of information (which would otherwise remain confidential) in return for an exclusive monopoly.

Dr Lawrence Cullen (Deputy Director of the UK Intellectual Property Office) and Dr Rowena Dinham (Senior Patent Examiner) delivered a presentation on examination procedures at the UKIPO. Dr Cullen pointed out that, under UK law, it is possible for third parties to comment on a patent application before granting on issues such as prior art without becoming a party to proceedings, although this facility is little used. Dr Dinham used some examples of patents already granted to illustrate the process. Dr Cullen concluded by drawing attention to improvements to the UK patent publication database recently introduced by the UKIPO.

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Dr Gerry Kamstra, senior partner at Bird & Bird explained the uncertainty surrounding the scope of the research exemption under UK law, and Julian Hitchcock from the East of England Stem Cell Network highlighted how the existing patent map may be redrawn following new developments, in particular iPS cells. The ensuing general discussion revealed that there is considerable interest within the stem cell research community in engaging with the patent system, and that the UKIPO is open to facilitating user engagement. The UKNSCN will now work with the UKIPO to provide a patent alert service in the stem cells field and to facilitate the searching of patent databases such as Espacenet.

Professor Aurora Plomer
University of Sheffield



Dr Gerry Kamstra of Bird & Bird, speaking during the IP workshop at the UKNSCN's inaugural conference in Edinburgh

■ SOCIAL SCIENCE AND STEM CELLS

Social scientists funded under the ESRC Stem Cell Initiative (SCI) are working closely with bioscientists to explore and understand the aspects of innovation in the stem cell field that impact on the UK's ability to compete successfully in the global market place. It is common knowledge that commercialisation in this field is problematic. UK social science is helping to analyse and respond to these problems. Current research includes assessing the significance of public expectations of stem cell science, the contribution of standards-setting to quality assurance, the dynamics of innovation in the UK, comparative understanding of the relationship between ethics and science, and the political dynamic propelling the global competition between countries for economic advantage in the field.

Integral to the activities of the SCI has been the continuing dissemination of research results through a variety of channels in order to maximise impact on both policy and practice. These include the organisation of interdisciplinary conferences, seminars and workshops where scientists and social scientists can compare notes on their experience of stem cell science; public engagement meetings exploring the often contentious implications of stem cells; publications in science as well as social science journals; and policy advice to national agencies such as the Medical Research Council, the Department for Innovation Universities and Skills, the Department of Health, and the UK National Stem Cell Network (social science is represented on the Steering Committee).

As the work has progressed and the social science analysis expanded, so the research agenda has been refined. In the immediate future, the focus will be on the changes in the global commercial terrain for stem cells and the challenging business models that will be required to deal with them. In particular, social science analysis will be dealing with the global politics of patenting, models of clinical translation, the emerging inter-state alliances (particularly in Asia) that may constitute a challenge to USA dominance in the life sciences, the international movement of scientists responding to the global stem cell market, and the continuing movement towards the international harmonisation of regulation.

Those interested in finding out more about these issues should visit the SCI web site at www.york.ac.uk/res/sci. If you have any points relating to this work, please contact either Brian Salter, who is the social science member of the Steering Committee, or the Director of the ESRC Stem Cell Initiative, Andrew Webster, via the web site.

Professor Brian Salter
UKNSCN Steering Committee

Professor Andrew Webster, speaking at the UKNSCN Inaugural Scientific Conference in Edinburgh, 9-11 April 2008



FUNDING REQUESTS

The UKNSCN secretariat has received many requests for financial support for a variety of activities, including scientific meetings at one end of the spectrum and, at the other, a request to support a theatrical production on stem cells designed to tour the UK. The UKNSCN Steering Committee has recently reviewed its current policy on the funding of these activities and has reaffirmed that the limited funding received from the sponsoring Research Councils (£150kpa) continues to be insufficient to support these requests in a fair way. The UKNSCN will be keen to support these types of activity in the future, when its funding has evolved to the extent that it can afford to do so.

UKNSCN AT ISSCR2008 IN PHILADELPHIA

The UKNSCN exhibited at the ISSCR2008 conference in Philadelphia, USA from 11-14 June 2008. We have recently expanded the number of flyers in our publicity folder (pictured below) to provide information from other stem cell groupings and networks that exist in the UK, in particular the North West England Stem Cell Network. You are warmly invited to contact Ben to discuss the inclusion of your flyer in the UKNSCN publicity folder for future meetings. At present, the folder includes flyers from UKNSCN, the UK Stem Cell Bank, the London Regenerative Medicine Network, the Scottish Stem Cell Network, the East of England Stem Cell Network, the Northeast England Stem Cell Institute, the North West England Stem Cell Network and the Bath Centre for Regenerative Medicine. The folders are proving very popular, with the first 1000 now distributed across the community.



The UKNSCN exhibition stand at the ISSCR2008 conference in Philadelphia, USA



UKNSCN Coordinator Ben Sykes speaking with a delegate at the ISSCR2008 exhibition stand



The UKNSCN publicity folder

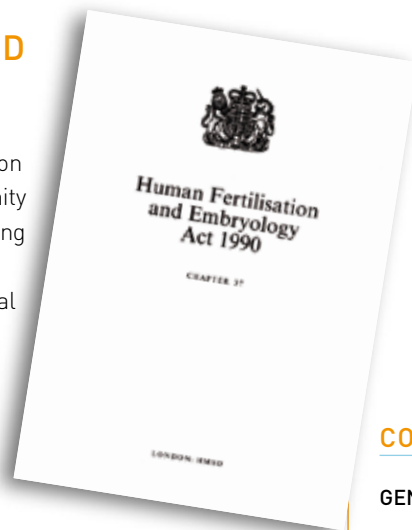
■ AND FINALLY....

THE HUMAN FERTILISATION AND EMBRYOLOGY (HFE) BILL

The UKNSCN is committed to fostering research on all stem cell types and has welcomed the opportunity to participate, on your behalf, in discussion surrounding the Human Fertilisation and Embryology Bill. The Bill proceeded to Second Reading and the final Committee Stage during the month of May. The HFE Bill will amend and update the 1990 Human Fertilisation and Embryology Act and will become law in mid-late 2009. Media coverage of the Bill's progress here in the UK has been intense, and a number of agencies (including the UKNSCN) have been involved in providing detailed briefing to MPs.

A number of proposed amendments to the Bill were tabled by a range of MPs, though all those proposing to overturn the main provisions in the Bill were defeated by large majorities in most cases. Perhaps the closest vote came in connection with human admixed embryos, in particular the issue of true animal-human hybrids for research. In practice, this provision is only necessary to legalise the standard fertility test in IVF clinics – in which a hamster ovum is penetrated by a human sperm and then immediately destroyed – and this was recognised by most MPs who voted by a slim majority of around 60 votes to reject the banning amendment.

The UKNSCN is delighted that many of the provisions in the Bill relating to stem cell research have been passed by MPs, and equally delighted that the UK has the requisite ethical regulatory framework to uphold the law and ensure that unnecessary or inappropriate research is not conducted. In this respect, the UK is in the vanguard of regulation and offers a model which many other countries seek to emulate.



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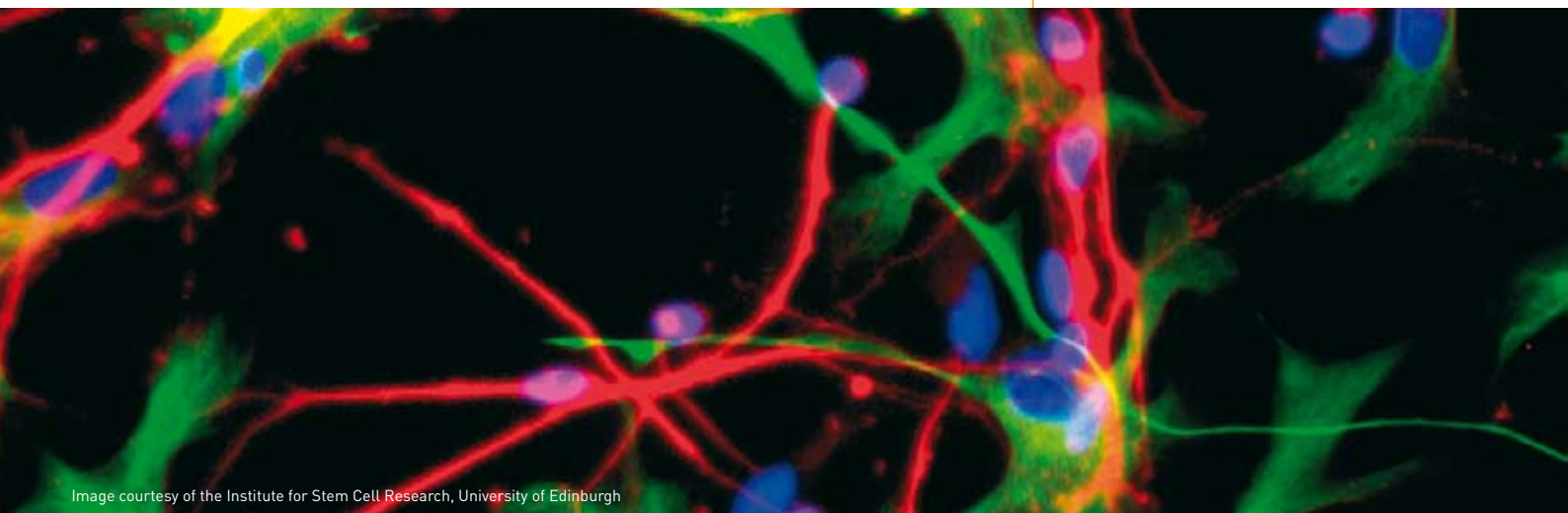


Image courtesy of the Institute for Stem Cell Research, University of Edinburgh