Cover Page

Proposal full title: **European consortium for communicating stem cell research**

Proposal acronym: **EUROSTEMCELL**

Type of funding scheme: **FP7-HEALTH-2009-single-stage**

Collaborative Project

Work programme topics addressed:
HEALTH-2009-4.1-2: Dissemination of results from research in Life Sciences and Biotechnology for Health to the general public and/or information multipliers.

Name of the coordinating person: **Doctor Clare Blackburn**

List of participants:

Partner N°	Participant organisation name	Country
1 (Blackburn)	University of Edinburgh	United Kingdom
2 (Cossu)	Fondazione San Raffaele Monte Tabor	Italy
3 (Cattaneo)	University of Milan	Italy
4 (Pipeleers)	JDRF Center for Beta Cell Therapy in Diabetes	Belgium
5 (Smith)	University of Cambridge	United Kingdom
6 (Andrews)	University of Sheffield	United Kingdom
7 (Brüstle)	Life and Brain GmBH	Germany
8 (Demotes)	European Clinical Research Infrastructures Network	France
9 (Graf)	Centre for Genomic Regulation	Spain
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1 SCIENTIFIC AND/OR TECHNICAL QUALITY, RELEVANT TO THE TOPICS THAT ARE ADDRESSED BY THE CALL

1.1 CONCEPT AND OBJECTIVES

Concept

The European consortium for communicating stem cell research (EuroStemCell) brings together the major EU-funded large-scale stem cell projects, the European Clinical Research Infrastructures Network, and other internationally recognized European stem cell research centres. The aim is to create a coordinated platform for widespread dissemination of rigorous scientific knowledge spanning the research fields of stem cell biology and regenerative medicine. Our strategy is to develop a centralized resource for collation and structuring of stem cell information - including archiving - supported by an expert team of science communicators, and to build onto this platform an ambitious programme for effective dissemination of research advances. For this, we will focus on three major dissemination routes: the web, provision of resources for direct public engagement, and provision of resources for educators. These are chosen for their capacity to reach a wide range of target audiences across Europe, spanning all educational levels and for their modular nature, which allows progressive addition of new materials as the science advances. Each module will be developed multi-lingually. To ensure development of best practice, all project activities will be critically evaluated throughout using qualitative and quantitative approaches, and will be refined accordingly. This approach synthesizes substantial previous experience, amassed through the high impact public engagement programme devised and implemented in the FP6 integrated project (IP) EuroStemCell (www.eurostemcell.org) and in our individual centres, with insights gained from academic evaluation of different approaches to public engagement in this field. The proposed network brings together the FP7 large-scale collaborative projects EuroSyStem, OptiStem, and NeuroStemCell and the FP6 IP ESTOOLS - the major stem cell projects funded by FP6 and FP7; the FP6 IP BetaCellTherapy; the European Clinical Research Infrastructure Network; and four internationally recognized centres selected for their expertise and geographical importance. This grouping contains the principal stem cell labs across Europe, including new member states, and additionally offers outstanding expertise in ethical and societal concerns and in evaluating clinical outcomes. By coordinating our dissemination activities, we aim to increase the impact of the research outputs of each component group and will further create a focal point for the European stem cell research community. This coalition will provide unparalleled expertise across the field of stem cell biology and regenerative medicine, and is uniquely placed to successfully achieve the vision of a trusted and accessible European stem cell information resource.

Relevance

Topic HEALTH-2009-4.1-2: Dissemination of results from research in Life Sciences and Biotechnology for Health to the general public and/or information multipliers addresses the need for improved strategies for communicating the results of research funded by the Framework Programmes and other European stakeholders to a range of audiences including the general public. Our approach is to be selective in research area, and to set ambitious targets.

Stem cell research has a high profile in the public arena due to the high level of public interest and expectation in this area, and can thus provide a paradigm for developing models of science communication. We have substantial experience in communicating fundamental and translational stem cell research to wide-ranging target audiences across Europe, gained in the FP6 IPs EuroStemCell and ESTOOLS and through activities in our individual centres. We have also conducted formal research and evaluation of different approaches to public engagement in this field. Our collective experience indicates the value of a coordinated approach to outreach and public engagement, based on development of high-quality tools and resources and their subsequent utilization in a wide variety of engagement activities. This allows wider dissemination of rigorous knowledge than more *ad hoc* approaches achievable by single actions. We have therefore established a network of the major existing stem cell consortia funded by the sixth and seventh frameworks and the European Clinical Research Infrastructures Network, each represented by their coordinators, and have also included additional centres for specific expertise and geographical balance.

In order to make significant impact within tight budgetary constraints we have chosen to focus on the major challenges presented by this topic:

- large-scale information management, including archiving;
- use of the web as a major interface with publics at all educational levels;
- enhancing capacity for direct public engagement; and
- provision of resources for educators.

To ensure rigorous evaluation of scientific data and synthesis of dispersed findings into accessible models, we have assembled a panel of experts, drawn from the participating consortia and centres, to provide top-level scientific review. We have also included a distinguished biomedical ethicist to moderate and inform ethical and societal debate. Our panel of experts, and other scientists involved in developing resources, will work collaboratively with a team of specialist science communicators with experience of stem cell biology and regenerative medicine, whose collective expertise spans all of the dissemination activities covered by the project. Our previous projects prove this approach to generate attractive and engaging communications tools that simultaneously retain the highest level of scientific accuracy. Information for widespread dissemination will be structured to be accessible to three educational levels – general interest non-specialist, informed non-specialist and specialist - covering a range of audiences spanning the general public, school students, educators, patients, clinicians, specialist and non-specialist scientists, politicians, regulators and legislators. Non-specialist outputs will be presented multi-lingually, enabling information and resources to be accessed by citizens and stakeholders across Europe. We will also provide a dedicated interface with specialist and non-specialist press and broadcast media. Our overall aim is to develop best practice in all of these areas, with a final goal of disseminating the model established here to the wider Life Sciences and science communications communities. Therefore, continuous stakeholder feedback and regular critical evaluation are central facets of all activities.

In order to provide high-level review of the project's progress, EuroStemCell will establish an International Advisory Panel (IAP). The IAP will review progress of the project annually and will provide advice and guidance. A provisional list of distinguished experts qualified to serve on this panel is:

Anne Kerr is Professor of Sociology and Pro-Dean for Research at the University of Leeds, and has published extensively on the ethics of embryo research, and the impact of science on society. She has substantial expertise in evaluation by qualitative methods.

Ana Godinho is Head of Science Communication and Outreach at the Gulbenkian Institute in Lisbon, Portugal. She has extensive experience of public engagement with stem cell research from both practical and academic perspectives.

Malcolm Love is Professor of Public Engagement in Science and Engineering at the University of Bristol, UK, and is also an independent media and communication skills consultant. He was formerly a senior producer for features and documentaries at the BBC. In addition to his academic role he is also an independent media and communication skills consultant, and an independent TV producer.

Doug Sipp is Science Communications and International Affairs manager at the Centre for Developmental Biology in Kobe, Japan – a world-leading centre for stem cell research. He also chairs the International Committee of ISSCR and provides administrative support to a number of international and Asia-regional scientific societies.

Halldór Stefánsson is head of the Science and Society programme at the European Molecular Biology Laboratories, Heidelberg.

Objectives and measurable outcomes

EuroStemCell has the following major goals over the four years of the project:

- To develop a sustainable infrastructure for coordinated management of stem cell information in Europe, including archiving of the outputs of projects funded by the Framework programmes.
    - *A central infrastructure for collation and management of stem cell information, including the outputs of projects funded by the sixth and seventh frameworks*
    - *A web-based archiving facility for Framework-funded stem cell projects*

- To develop active and functional methodologies for structuring of stem cell information for dissemination to target audiences at three educational levels.
    - *A systematic process for identifying advances in stem cell research and regenerative medicine that merit widespread dissemination,*
    - *A coordinated infrastructure for adapting the information for target audiences*

- To develop an efficient specialist service for dissemination of advances in stem cell research to the press and broadcast media.
    - *A team of specialist stem cell science writers*
    - *Increased profile for major advances in European stem cell research in the press and broadcast media*

- To develop a high profile multi-lingual European stem cell information portal serving European citizens and stakeholders at all educational levels
    - *A comprehensive multi-lingual web-resource providing comprehensive stem cell information to citizens and stakeholders at all educational levels*
    - *Web-based discussion forums for experts and non-experts in stem cell research and regenerative medicine*
    - *Annual evaluation of uptake of web-based resources across Europe*
    - *Annual evaluation of traffic through the European Stem Cell Portal*

- To develop multi-lingual resources for promoting public engagement with stem cell research throughout Europe.
    - *An outreach toolkit for use in a variety of public engagement arenas*
    - *Evaluation of toolkit components by more than one test audience*
    - *Evaluation of uptake of toolkit components across Europe*

- To develop educational resources on stem cell research for use in secondary and tertiary education throughout Europe.
    - *Report on the potential use of stem cell information resources in European schools science curricula.*
    - *A toolkit of stem cell information resources tailored for use in secondary schools in partner countries and countries represented in participating consortia*
    - *Evaluation of uptake of educational resources across Europe*

- To develop and promote best practise in large–scale management of scientific information and dissemination of key advances to European citizens and stakeholders.
    - *Report on utilisation of the "outreach toolkit"*
    - *Report on impact of dissemination activities*
    - *Increased impact and public understanding of stem cell research across Europe*

1.2 CONTRIBUTION TO THE COORDINATION OF HIGH QUALITY RESEARCH

The need for improved communication of scientific progress to wider society is widely recognized[1,2]. Dialogue with citizens is important to promote understanding of how scientific advance impacts upon society, with ramifications at personal and political levels. This is particularly true for stem cell research and regenerative medicine, in which great hopes are invested for improving health and quality of life. To date, science communication in this area has depended largely on *ad hoc* activities, driven by the enthusiasm and energies of scattered individuals. Therefore the quality of information available to stakeholders in different sectors and regions is very variable. Moreover, models of public engagement have now developed such that the traditional mode in which scientists informed the public(s) about their activities primarily through the lecture, question-and-answer format has been superseded by the more dynamic dialogue mode, entailing direct engagement between scientists and different publics. Most importantly, the web increasingly offers new possibilities for communication with a much broader audience than was previously possible. These developments present challenges to scientists in establishing effective communication channels, not least because of the time constraints operating on those actively engaged in highly competitive research - the active involvement of leading scientists is critical, since only in this way can the public engage with the most accurate and contemporary synthesis of knowledge in any given field. Furthermore, academic scientists are regarded as the most trusted source of information by European publics[2]. The coordination of public engagement activities within particular scientific disciplines is therefore strategically important, as it provides the opportunity to both improve the quality of public understanding through provision of high quality information and resources for public engagement, and increase the impact of individual research outputs and science communication activities. Additionally, it avoids both duplication and dilution of effort. Development of science communications strategies at this level necessarily requires engagement between scientists and professional communicators, including science communicators, and the press and media.

Stem cell research is one of the most promising and exciting areas of biomedical science, with potential to revolutionise the way we treat many debilitating diseases and injuries. Since the creation and maintenance of human embryonic stem (ES) cells in the laboratory in 1998, research into stem cells has become an area of great public excitement and hope - matched by equally strong controversies, concerns and fears, and attracting a correspondingly high level of media interest. Stem cell research is thus a paradigm for how science and technology are part and parcel of our everyday lives. The future wellbeing of many thousands of people may be affected by the knowledge acquired through stem cell research and its applications; on the other hand, this research is constantly confronting society with new ethical and social dilemmas. It is, consequently, an area where effective communication and engagement with the broadest possible community is essential. In particular, public engagement is important to allow proper assessment of both the research required to evaluate potential stem cell based therapies and the therapies themselves, and to inform decision making around issues of public interest, including tissue and organ donation and clinical trial participation. While these issues clearly affect citizens at the personal level, there are also effects in the political and economic arena. For instance, the long delay at the European Patent Office in establishing a position on patenting inventions related to human embryonic stem cells has long-term impact on Europe's ability to derive economic benefit from the efforts of its scientists. Public understanding of the broad nature of the support required if the potential benefits of this field are to be realized is therefore essential.

Communication of stem cell research presents particular challenges. The field is fast moving, and it can be hard for the outsider to assess the credibility of new claims. Furthermore, unscrupulous operators have been quick to jump on the stem cell band-wagon, and offer 'miracle cures' which have little or no scientific foundation and which have not been medically evaluated. Additionally, the field of human embryonic stem cell research has been surrounded by emotive issues including those related to the status of the embryo and egg donation for research use. Therefore, there is a pressing need to establish a trusted information source, accessible to all educational levels, that provides comprehensive coverage of stem cell science and associated ethical and societal issues. To achieve this goal in Europe, such a resource must be provided multi-lingually.

The EUROSTEMCELL network has been brought together in order to meet this challenge, by providing a focal

[1] See for instance European Commission Science and Society action plan 2001; EC DG-research "European Reesearch – a guide to successful communications' 2004, and many more
[2] Eurobarometer survey 2005

point for the communications and public engagement activities of European stem cell scientists. Structured to include the major currently funded FP6 and FP7 stem cell projects, along with specific expertise on clinical research and on ethics, it represents 82 leading stem cell laboratories and 11 SMEs across Europe. Each of the members has individual expertise in science communication, while Partner 1B brings specific expertise in analysis of public concerns around stem cell research and evaluating public engagement strategies. Additionally, we have collective experience in coordinated science communications strategies, through the outreach and public engagement programmes of EuroStemCell, ESTOOLS and BetaCellTherapy. These projects each supported pilot programmes in which collective approaches could be developed and evaluated. Our experience in these programmes, particularly from the highly rated "EuroStemCell" outreach programme, indicates the value of this approach and provided the impetus for the present application. We particularly highlight its value in:

- minimizing duplication of effort;
- allowing pooling of resources to develop high impact public engagement tools that can then be used by a wide range of communications practitioners;
- allowing synthesis of knowledge at the highest level prior to public communication.

We further note the value of these activities not only for the public and stakeholders, but also for scientists working in stem cell research itself. Collaboration around communication also promotes scientific collaboration, while engagement of scientists in public dialogue often leads to them acquiring deeper understanding of both their field and its wider implications within society.

We are therefore proposing a coordinating action which will develop an infrastructure for managing and disseminating information on stem cell research advances throughout the ERA.

Work Package 1 will focus on collation of stem cell information – including the major research findings of projects funded by the framework programmes - and its subsequent structuring into content adapted to be accessible to target audiences ranging from general public to scientific expert. Relevance of content to different target audiences will be ensured by feedback from direct public engagement in WP2. Importantly, this WP will also provide a facility for centralized archiving of stem cell project outputs.

Work Package 2 will develop and promote a major web-based information resource, the **European Stem Cell Portal**, as a dynamic interface between stem cell research and wider society.

Work Package 3 will develop resources for public engagement and for educators, using active engagement with target audiences throughout to test and refine prototypes.

Work packages 1-3 collectively establish a model for channelling the research outputs of large-scale projects to defined audiences. Importantly, all activities will be driven by scientists, working closely with social scientists and specialist stem cell science communicators. These work packages will therefore provide direct benefit both to citizens and stakeholders throughout Europe, and to the stem cell community itself. For citizens and stakeholders, they will provide increased access to and understanding of stem cell research - including fundamental principles and the state-of-the-art - and of the potential applications and benefits expected from this area. For scientists, they will provide benefits through implementation of an information management and archiving infrastructure – which could for instance be used to facilitate rapid knowledge sharing between European research groupings; through development of specific web-resources for scientists - including forums for technical discussion and topical debate, focused on European stem cell science; through supporting collaborative model-building; and through enhancing communication skills. A net benefit will be to create an active presence for European Stem Cell Research, which in turn will strengthen the academic and biotechnology stem cell sectors by raising awareness of career openings in Europe for talented young scientists.

A wider aim of the project is to establish a model of best practice in large-scale coordinated science communication. To this end, **Work Package 4** will develop links and share best practice with other leading European and International stem cell organisations; provide critical evaluation throughout the project's progression, allowing approaches to be refined accordingly; and finally, will disseminate the model achieved through the work of this action widely to other Life Sciences disciplines. The project will therefore have long-term impact at several

levels:

- *In the area of stem cell science communication, it will establish a functional infrastructure for evaluating and collating scientific advances; structuring this information to be accessible to target audiences at all educational levels; and engaging with European citizens and stakeholders via the main platforms of the web, direct engagement, and education. Scientists working at the highest level in this field will drive these activities, ensuring scientific accuracy in all project outputs. A major outcome will be improved public understanding of stem cell research and regenerative medicine throughout Europe.*

- *In the wider field of communicating Life Sciences, it will develop best practice for information management and communication of scientific knowledge on a large scale.*

- *In the area of stem cell research, it will build on initiatives developed in the FP7 large-scale project EuroSyStem to federate the field in Europe, by providing resources tailored for stem cell scientists and actively fostering communication between stem cell scientists within Europe and internationally; and by establishing an internationally visible presence for the European stem cell community.*

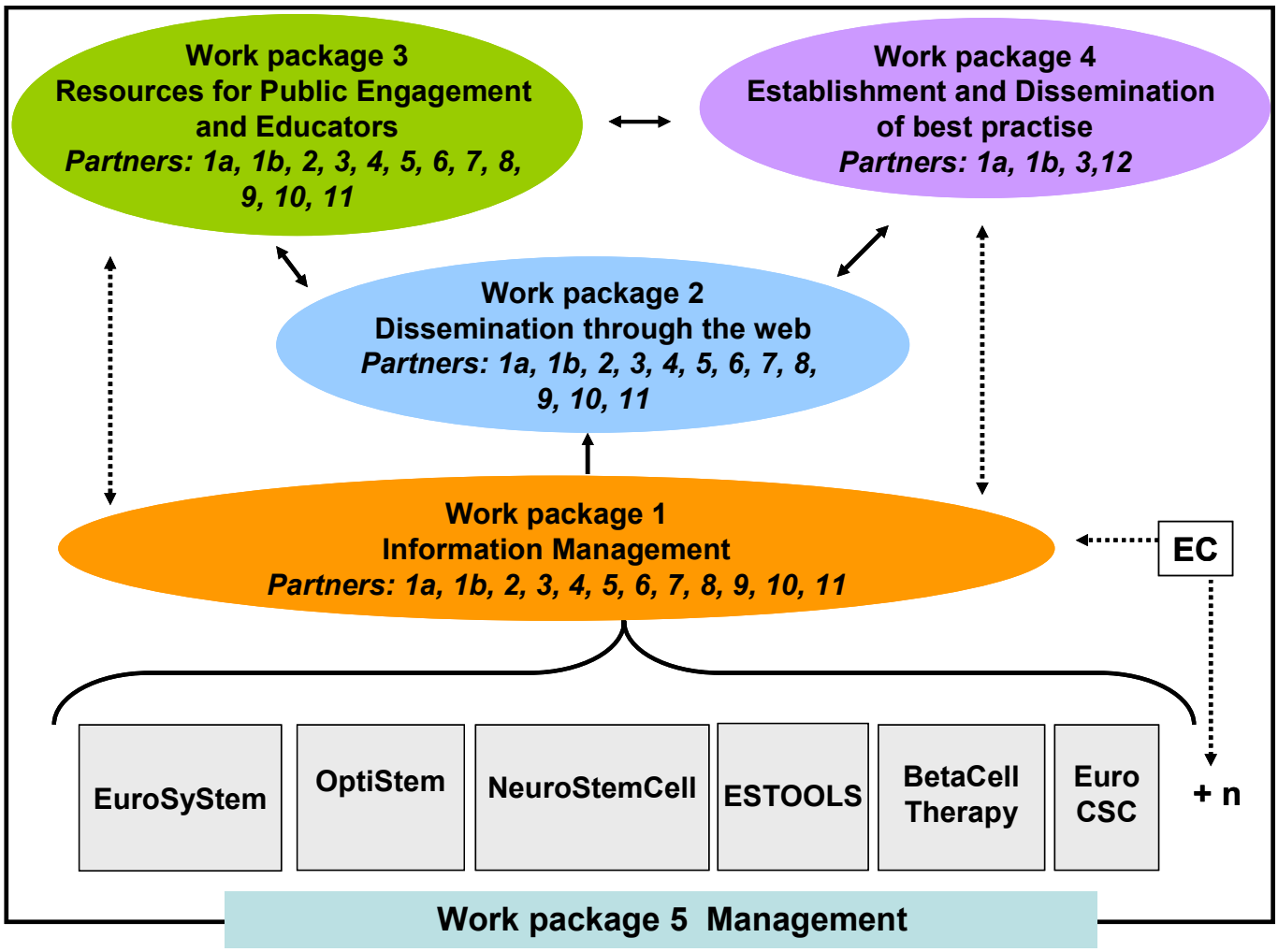
1.3 QUALITY AND EFFECTIVENESS OF THE COORDINATION MECHANISMS AND ASSOCIATED WORK PLAN

i) Overall structure of the work plan

EuroStemCell aims to develop a sophisticated model for coordinating dissemination of research advances in stem cell biology and regenerative medicine to a wide range of audiences, spanning European citizens and stakeholders at all educational levels. Our strategy is to develop a comprehensive platform for collation, evaluation and dissemination of advances in the field, structured to foster accessible and responsive interfaces between the consortium members, including participating scientists and science communicators. The work-plan is therefore divided into four basic work packages, each consisting of several interconnected sub-projects. Work packages 1 to 3 cover information management including archiving, dissemination through the web and press, and development of resources for public engagement and for educators, while the fourth work package covers establishment and dissemination of best practice and sustainability of the model. Work package 5 describes our project management strategy. This structure allows the major information collation and structuring tasks in work package 1 to feed information already assessed as meriting widespread dissemination and adapted for defined target audiences into work packages 2 and 3, which focus on three major dissemination platforms – the web, direct public engagement, and education. Work package 1 additionally provides a dedicated press interface.

This structure will promote increased efficiency by avoiding duplication of effort and will stimulate creative synergy by bringing together a critical mass of science communicators. Additionally, by promoting active participation of scientists at all stages of developing dissemination resources, it will ensure comprehensive coverage of the field and scientific accuracy in all outputs, and will promote both understanding by scientists of the views and needs of the public (in and across nation states) and the development of effective communication skills. Therefore, beyond its overt aims, the project will by its very nature build capacity within science with regard to effective and innovative communication.

EUROSTEMCELL PERT DIAGRAMME



EUROSTEMCELL GANTT CHART

Month	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
WP1																								
Establishment of information hub	■	■	■	■																				
Information collation			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Information structuring			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Development of press/broadcast media interface	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Archiving of information			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
WP2																								
Website development	■	■	■																					
Multilingual website development+updating			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Website Management (content and structure)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
WP3																								
Collation and enhancement of existing resources	■	■	■	■	■																			
Development of new resources				■	■	■	■	■	■	■	■	■	■	■	■									
Engagement with key audiences					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Development of resources for educators				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
WP4																								
Sharing best practise								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Evaluation and optimisation												■						■						■

Dissemination of outreach toolkit																								
Dissemination of best practise																								
WP5																								
Consortium and WP management																								
Independent quality review																								
Risk management																								

Table 1.3 a: Work package list

Work package no.	Work package title	Type of activity	Lead participant no.	Lead participant short name	Person - months	Start month	End month
WP1	Information management	OTHER	1	UEDIN	47	1	48
WP2	Dissemination through the web	OTHER	1	UEDIN	47	1	48
WP3	Resources for Public Engagement and for Educators	OTHER	3	UMIL	21	1	48
WP4	Establishment and dissemination of best practise	OTHER	12	DAC	8	1	48
WP5	Management	MGT	1	UEDIN	5	1	48
	TOTAL				130		

Table 1.3 b: Deliverables List

Deliverable no.	Deliverable name	WP no.	Nature	Dissemination level	Delivery date
D1.1	An active and functional infrastructure for collation and structuring of stem cell information, including the outputs of stem cell research projects funded by the European Union sixth and seventh frameworks and other stakeholders.	1	R	PP	18
D1.2	An efficient specialist service for dissemination of advances in stem cell research to the press and broadcast media	1	R	PU	18
D1.3	A sustainable infrastructure for coordinated management of stem cell information in Europe	1	R	PU	48
D2.1	A European web-based portal for stem cell information	2	R	PU	10
D2.2	A multi-lingual European stem cell portal	2	R	PU	18
D2.3	A high profile centralized multi-lingual European stem cell information portal accessible to citizens and stakeholders	2	R	PU	44
D3.1	A multi-lingual toolkit for public engagement with stem cell research	3	R	PU	30
D3.2	Report on public engagement with target audiences	3	R	PU	30
D3.3	Report on provision and uptake of resources for educators	3	R	PU	36
D3.4	Enhanced public engagement with stem cell research throughout Europe	3	R	PU	44
D4.1	Report on analysis of dissemination and uptake of life science communication tool kit by stakeholders	4	R	PP	48

D5.1	Report on development of links and shared communications strategies between EUROSTEMCELL and other stem cell projects and organizations	5	R	PU	30
D5.2	Report on best practise in dissemination of scientific advances to citizens and stakeholders across Europe	5	R	PU	44
D6.1	Report on management of consortium activities	6	R	PU	12
D6.2	Report on management of consortium activities	6	R	PU	24
D6.3	Report on management of consortium activities	6	R	PU	36
D6.4	Final report on management of consortium activities	6	R	PU	48

LIST OF MILESTONES (TABLE 1.3C)

Milestone number	Milestone name	Work package(s) involved	Expected date	Means of verification
M1	An active and functional infrastructure for collation and structuring of stem cell information	1	12	Review by steering committee and International advisory panel
M2	An active and functional infrastructure for archiving of the outputs of stem cell research projects funded by the European Union sixth and seventh frameworks and other stakeholders.	1	12	Review by steering committee and International advisory panel
M3	Report on information collation and structuring in year 1	1	12	Review by steering committee and International advisory panel
M4	Report on information collation and structuring in year 2	1	24	Review by steering committee and International advisory panel
M5	Report on information collation and structuring in year 3	1	36	Review by steering committee and International advisory panel
M6	Final report on information collation and structuring	1	44	Review by steering committee and International advisory panel
M7	Report on archiving of project information year 1	1	12	Review by steering

				committee and International advisory panel
M8	Report on archiving of project information year 2	1	24	Review by steering committee and International advisory panel
M9	Report on archiving of project information year 3	1	36	Review by steering committee and International advisory panel
M10	Final report on archiving of project information	1	44	Review by steering committee and International advisory panel
M11	Report on creation of a specialist press and media resource for European stem cell research	1	12	Review by steering committee and International advisory panel
M12	Report on activity of the specialist press and media resource for European stem cell research	1	24	Review by steering committee and International advisory panel
M13	Report on activity of the specialist press and media resource for European stem cell research	1	36	Review by steering committee and International advisory panel
M14	Report on activity of the specialist press and media resource for European stem cell research	1	44	Review by steering committee and International advisory panel
M15	Implementation of multi-lingual viewer function to www.eurostemcell.org	2	12	Review by steering committee and International advisory panel
M16	Provision of all public content in ten European languages	2	24	Review by steering committee and International advisory panel
M17	Provision of clinical trials information through www.eurostemcell.org	2	18	Review by steering committee and International advisory panel
M18	Report on continued development of www.eurostemcell.org	2	24	Review by steering

				committee and International advisory panel
M19	Report on continued development of www.eurostemcell.org	2	36	Review by steering committee and International advisory panel
M20	Report on continued development of www.eurostemcell.org	2	44	Review by steering committee and International advisory panel
M21	Stem Cell Stories DVD set available in 10 languages	3	24	Review by steering committee and International advisory panel
M22	Role play available on line in major European language versions	3	12	Review by steering committee and International advisory panel
M23	Dialogue event available on line in major European language versions	3	12	Review by steering committee and International advisory panel
M24	Addition of component on gene networks controlling normal and malignant blood stem cells to outreach toolkit	3	24	Review by steering committee and International advisory panel
M25	Addition of component on neurological repair to outreach toolkit	3	36	Review by steering committee and International advisory panel
M26	Addition of component on muscle repair to outreach toolkit	3	36	Review by steering committee and International advisory panel
M27	Report on direct public engagement activities.	3	12	Review by steering committee and International advisory panel
M28	Report on direct public engagement activities.	3	24	Review by steering committee and International advisory panel
M29	Report on direct public engagement activities.	3	36	Review by steering

				committee and International advisory panel
M30	Report on direct public engagement activities.	3	44	Review by steering committee and International advisory panel
M31	Promotion of EuroStemCell outreach toolkit to science centres and museums through ECSITE	3	12	Review by steering committee and International advisory panel
M32	Report on the potential use of stem cell information resources in European schools science curricula.	3	18	Review by steering committee and International advisory panel
M33	A toolkit of stem cell information resources tailored for use in European schools	3	36	Review by steering committee and International advisory panel
M34	Report on uptake of stem cell information resources in European Universities	3	36	Review by steering committee and International advisory panel
M35	Adapted stem cell toolkit for general life science communication	4	36	Review by steering committee and International advisory panel

Work package number	1				**Start date or starting event:**			1				
Work package title	**Information Management**											
Activity Type	**COORD**				**Workpackage Leader**					**Clare Blackburn**		
Participant number	1A	1B	2	3	4	5	6	7	8	9	10	11
Participant short name	UEDIN	UEDIN	HSR	UMIL	JDRF	UCAM	USHEFF	LIFE&BRAIN	ECRIN	CGR	ULUND	REMEDI
Person-months per participant	36	1	1	1	1	1	1	1	1	1	1	1

Objectives

WP1 will address the need to establish a core information management infrastructure within the EUROSTEMCELL network as a prerequisite for coordinating the dissemination activities of each of the participating consortia and centres. The specific goals are to:

- Identify and collate stem cell information from the participating laboratories and the general field in the ERA and world-wide
- Structure the information to be suitable for different target audiences
- Provide a professional press and media interface for stem cell research
- Provide a centralized long-term archive for the outputs of each of the participating projects and centres

Description of work and role of participants

Theme 1: Establishment of an information management hub

The first task for WP1 will be to implement a coordinated structure for information management. To achieve this, we will develop an information management team comprising the specialist science communicators active in the participating consortia and centres – including EK and DS (Partner 1A), GM (Partner 3), SD (Partner 6), DM (Partner 11) and a dedicated Information and Communications Manager (ICM) post funded by EUROSTEMCELL (Partner 1A). This team will provide the interface between the 82 Principal Investigators and 11 SMEs represented by the participating consortia and centres, and the dissemination platforms supported by EUROSTEMCELL (WPs 2 and 3). CB (Partner 1A) will provide line management for the Information and Communications Manager, who will coordinate the EUROSTEMCELL-related activities of this team. Collectively, this team will provide unparalleled experience in communicating stem cell biology and regenerative medicine to a wide range of audiences, with expertise covering the spectrum of specialist subjects encompassed by this broad field. Complementing this, we will establish a network of scientists to provide specialist review of the activities of WPs1-4, as detailed in 2.1 and 2.2.

Theme 2: Information collation

The WP1 committee together with the information hub team will be responsible for identifying:
I) Important areas in existing and new knowledge in the fields of stem cell biology and regenerative medicine that are not already integrated into the European stem cell information portal.
II) Significant advances made by scientists in each of the participating consortia and centres, representing the major stem cell outputs funded by the Framework Programmes and other European stakeholders.
III) Information on stem cell clinical trials that are in progress or completed, and on clinical 'treatments' currently offered by companies but not supported by clinical data.

This information will be prioritized for further development and then provided to the EUROSTEMCELL Information and Communications Manager who, in conjunction with the committee Chair (CB), will log the information and identify an appropriate scientist reviewer for its further development. For information identified in **(I),** the Information and Communications Manager will work with the scientist reviewer to

identify appropriate sources of information for structuring in **Theme 3** below. For information identified in **(II),** written reports detailing these advances will be provided to the Information and Communications Manager for further structuring and dissemination. Examples of suitable formats include major papers (at the point of publication, prior to the embargo date), milestone reports concerning major advances that are available for public dissemination, and major deliverables. For **(III)** we will provide links to existing databases available through ECRIN (Partner 8), and will also provide digested information summaries through **Theme 3 below**. In tasks **(I-III)** above, WP1 committee members will take specific responsibility for the scientific areas covered by their consortia or centres as detailed in sections 2.1 and 2.2. While at the outset of the project, information collation will be limited to the outputs of the groups represented by the participating consortia and centres, as the project progresses we will also work with new stem cell consortia funded by the seventh framework and other European funding bodies to collate and disseminate their research outputs. This will ensure that the best stem cell research across Europe is represented with maximum impact.

Theme 3: Information structuring

The information collation model described above will ensure that the state-of-the-art and subsequent progress is systematically reviewed throughout the course of the project, with the result that the dissemination activities in WP2-4 provide comprehensive coverage of the field. Prior to dissemination however, further structuring of the information to develop suitable content for the dissemination platforms described in WP2-4, aimed at different target audiences is required.

EUROSTEMCELL aims to inform and engage with target audiences including the general public, school students, educators, patients, clinicians, specialist and non-specialist scientists, politicians, regulators and legislators. This range will require development of information adapted for accessibility at **three educational levels**: **general interest non-specialist** (e.g. European public, patients/patient groups and school pupils); **informed non-specialist** (mediators: e.g. media, outreach practitioners, teachers, scientists involved in outreach, government organizations, legislators); and **specialist** (primarily academic researchers and also stem cell companies)(see also **WP2 theme 1**). The Information and Communications Manager, working with the selected scientist reviewer and additional scientists and ad hoc writers as appropriate, will therefore develop written resources in the form of short reports, commentaries, comment and analysis pieces, briefing notes etc, for subsequent dissemination through WPs 2 and 3. Emphasis throughout will be placed on clarification rather than simplification of key scientific concepts, to ensure scientific rigour in all outputs. Although the Information and Communications Manager will be an experienced science communication professional skilled in dissemination to all of our target audiences, we will regularly evaluate the quality of the material through interaction with test audiences for each educational level. Most outputs will initially be written in English, and non-specialist outputs will then be translated into up to nine additional European languages (Czech, Dutch, French, German, Italian, Polish, Portuguese, Spanish, and Swedish) by a team of native speaker postdoctoral scientists and PhD students identified through the participating consortia and centres, and quality control will be implemented to ensure that language stays accessible in translation. This team of translators will be paid for their work on an ad hoc basis.

Role of participants themes 1 & 2: The WP committee together with the information hub team will identify and collate relevant information. All consortium members will obtain latest scientific updates from project partners and forward to the information hub coordinated by Partner 1A. All consortium members will also provide specialist scientific advice on their specific areas of expertise, and will indicate appropriate advisors to represent other areas covered by their consortium (as detailed in Partner description). In particular, ECRIN (Partner 8) will monitor clinical trials and treatments data. Partner 1B will provide specialist advice on structuring information for different target audiences. Priorities for the information management team will be set by the WP committee, and day-to-day management will be provided by CB (Partner 1A). The EUROSTEMCELL Information and Communications Manager, together with other members of the information hub, will work with specialist scientist reviewers identified by the WP committee to assess content and to develop a written information resource structured for different target audiences. This team, guided by the WP committee and working closely with specialist scientist reviewers will also be responsible for identifying and filling information gaps in website content. The science communications managers of the participating consortia already have defined roles in their respective consortia. In EUROSTEMCELL, they will principally play coordinating roles, by informing the EUROSTEMCELL Information and Communications Manager of major advances requiring dissemination and providing primary research

reports. However, where their normal duties would include dissemination of these advances, they will also participate in WP1 information structuring activities.

Theme 4: A specialist interface with the press and broadcast media
We will also provide a specialist service for producing press releases on important advances in stem cell and regenerative medicine. The rationale is that accurate representation of complex science requires a specialist background often not available through local press offices, with the result that press releases on new advances may incorrectly emphasise certain aspects at the expense of others, or that significant stories may simply not be picked up. The EUROSTEMCELL Information and Communications Manager will build up a knowledge and contact resource that can be widely used to promote effective dissemination through specialist and non-specialist press and broadcast media. The post holder him or herself together with DS (Partner 1A) will provide much of the writing expertise, but will also develop a team of expert freelance writers who can be called on as necessary. Press releases will initially be written in English, and will be released in English to UK specialist and non-specialist press and broadcast media and to international specialist media. The Information and Communications Manager will liaise with local press offices for translation as required, and for release to press and broadcast media in relevant countries. International contacts including with specialist press and broadcast media will be developed by EUROSTEMCELL, local contacts will largely be held by local press offices. We will also utilise links to Alpha Galileo, the Science Media Centre, and equivalent organisations in other European countries.

Role of participants: All partners, plus groups represented by partners 2-6 will provide details of breaking stories in advance of the embargo date (which will of course be respected). ICM, DS and an ad hoc writing team will work with the lead scientist for each story to prepare press releases in English, and will liaise with partner press offices and international science journalists and broadcast media (non-specialist and specialist) to generate coverage as appropriate.

Theme 5: Archiving
FP6 projects are required, under terms of the contract (Articles II.10.1 and II.34), to provide continued access to the project outputs, evaluation and impact assessment of the funded activities, and continued use of the knowledge resource provided to the European public, for a number of years following the conclusion of the project. An efficient strategy for achieving this is to make all of the required information available through a website, however, without active curation websites soon become outdated and dysfunctional. The FP6 IP EuroStemCell pioneered a model in which the project website was archived within a relaunched site – www.eurostemcell.org - which to date has been maintained due to the enthusiasm of the stem cell community for further development of this website in the long-term. **eurostemcell.org** is an important structural component of this coordinating action, providing the central platform for dissemination of research findings to target audiences (see **WP2**). In the context of WP1, it also proves a cost efficient mechanism for providing continued access to the outputs of other FP6 and FP7 funded projects, through the archiving function described above. Thus, at the end of the FP6 and FP7-funded projects constituted by the particiating consortia, the respective outputs of these projects will be archived in www.eurostemcell.org, such that they will remain publicly accessible for the foreseeable future. Consortium-level access can also be provided for elements of the archive sites if required.

In most cases, we will employ an active archiving strategy, whereby the major outputs from the project are integrated into www.eurostemcell.org by selecting key content - for instance outreach resources - out of the site and migrating it to the Drupal platform (see **WP2**) . To achieve this, KD (Partner 1A) will work with the appropriate FP6/7 project manager to come up with archiving plan, and the costs will be split between the project to be archived and EUROSTEMCELL. In this case, we will also encourage the use of the data warehousing and analysis database StemDB (see 2.2 **resources**) for archiving data and project outputs. In cases where this level of archiving is not required, we will adopt a simpler but less dynamic strategy of archiving the project website as a whole site, by linking to and hosting the entire existing site.

The data and web archive will be made available from a secure high availability computer cluster with a high-speed external connection to the internet. Data will be archived securely off site to a centrally managed storage area network and to tape storage within the University of Edinburgh data centre. The servers will make full use of the security systems offered by the host operating system (Redhat Enterprise Linux) as well as dedicated hardware firewalling.

Role of participants: ST (Partner 1A) will provide access to StemDB for data archiving. KD (Partner 1A)

will implement website archiving within www.eurostemcell.org for all participating projects as they finish.

Deliverables

- An active and functional infrastructure for collation of stem cell information, including the outputs of stem cell research projects funded by the European Union sixth and seventh frameworks and other stakeholders.
- An active and functional infrastructure for structuring of stem cell information for dissemination to target audiences at three educational levels.
- An efficient specialist service for dissemination of advances in stem cell research to the press and broadcast media.
- An active and functional infrastructure for archiving of the outputs of stem cell research projects funded by the European Union sixth and seventh frameworks and other stakeholders.

Final Deliverable: A sustainable infrastructure for coordinated management of stem cell information in Europe.

Work package number	2				Start date or starting event:			1				
Work package title	Dissemination through the web – development of a European stem cell information portal											
Activity Type	COORD				Workpackage Leader					Kate Doherty		
Participant number	1A	1B	2	3	4	5	6	7	8	9	10	11
Participant short name	UEDIN	UEDIN	HSR	UMIL	JDRF	UCAM	USHEFF	LIFE&BRAIN	ECRIN	CGR	ULUND	REMEDI
Person-months per participant	36	1	1	1	1	1	1	1	1	1	1	1

Objectives

In WP2 we will develop and implement a major interface between European stem cell research and European stakeholders and citizens - the **European Stem Cell Information Portal** – and will also provide stem cell resources for specialist and non-specialist press and media. Specifically, we will:

- Develop a multilingual web portal for stem cell information, structured to provide accurate, accessible and engaging information to target audiences including the general public, school students, educators, patients, clinicians, specialist and non-specialist scientists, politicians, regulators and legislators.

- Manage the website, to ensure up-to-date coverage of stem cell information from global sources

Description of work and role of participants

The multilingual ***European Information Portal for Stem Cells and Regenerative Medicine*** will disseminate the research outputs of the contributing consortia and of other European stakeholders. It will also provide comprehensive, accessible information on new developments in clinical and fundamental stem cell research written specifically for the non-specialist, including invited comment and analysis pieces, research reports and FAQ, and will host forums for public engagement in stem cell science including moderated comment and blog spaces. Content will be drafted and reviewed by scientists and developed by specialist science communicators, and emphasis will be placed on clear evaluation of the potential applications and benefits for citizens of existing knowledge and new developments in stem cell research. The existing nucleus for this website - www.eurostemcell.org - was built on foundations established by 6th framework funding. We now propose to consolidate and expand the scope of this site as the premier European reference site for stem cell information, by coalescing the expertise and dissemination activities of the leading stem cell integrated projects funded by the Framework Programmes in a single coordinating action.

Theme 1: Website development

Structure of the existing site

The current website www.eurostemcell.org was initially developed as the project website for the FP6 IP EuroStemCell. At the close of that project, enthusiasm was evident for redeveloping the website as a European Stem Cell Portal, with the following objectives:

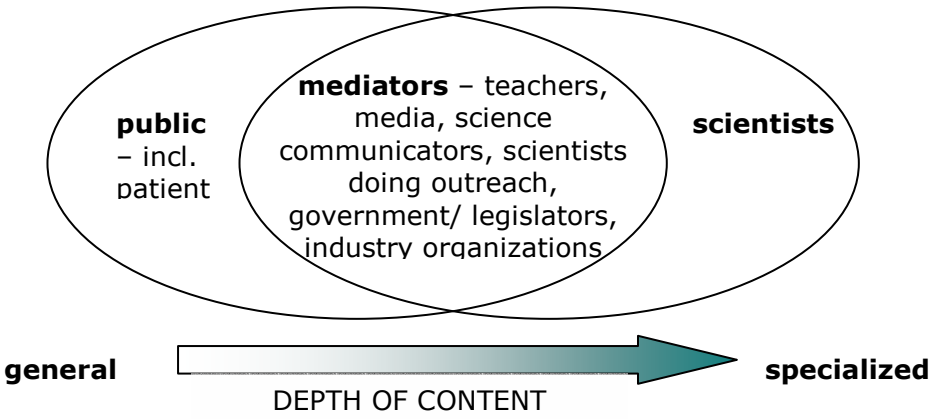
- Provide a centralised repository of European stem cell outreach & public engagement resources.
- Provide top level commentary on current stem cell research developments
- Provide useful services and resources for the European stem cell community
- Facilitate and encourage scientist and community/public interaction – fostering a virtual European stem cell community
- Provide an archiving function for the old EuroStemCell site (see **WP1** theme 3).

The redeveloped site launched in January 2008 and has built an audience of **10,000 unique visits per month**. It targets three key audience groupings, meeting the different (but in some cases overlapping) set of

needs and interests of each group as follows:

1. **Non-specialists: the European public, patients/patient groups, school pupils**
   - Provision of general, accessible information about stem cell research – FAQ (currently in three languages), films (currently in five languages), information about public events, ethics information, news, image galleries.
   - Provision of a forum for interaction with / asking questions of scientists and other specialists
2. **Mediators: media, outreach practitioners, teachers, scientists involved in outreach, government organizations, legislators**
   - Provision of general, accessible information about stem cell research – as for 1 above
   - Provision of more specialized information: e.g. commentaries on recent research developments
   - Provision of resources that will help/enable the viewer to easily stage events and activities – role-play pack, films, event templates/packs, glossary, FAQ, ethics information
   - Provision of practice-sharing capacity: information about how others have used resources and staged events – currently through commenting, discussion forum planned
   - Provision of forum for interaction with / asking questions of scientists and other specialists
3. **Specialists (i.e. scientists): primarily academic researchers and stem cell companies**
   - Provision of in-depth stem cell information and data: a data storage, analysis and warehousing facility is available through the database StemDB, which supports managed access allowing data sharing between groups assigned on a case-by-case basis
   - Provision of information about jobs (whether hiring or seeking), training opportunities and events
   - Provision of commentaries from other scientists
   - Provision of technical forum where researchers can share problems and find solutions, with the help of their peers and a panel of expert moderators.
   - Provision of a smart contact managed database of active European researchers, StemDirect.

The three audiences can be visualized as follows:



Technical platform

The website is built on the European-developed open source content management system (CMS) "Drupal" - http://drupal.org/. This platform was chosen as it is supported by a large community of developers, and provides a modular approach to functionality that allows rapid and cost-effective development. Using a CMS like this, with inbuilt memberships, also allows us to build a community of contributors – expert and non-expert alike – around the site. The website is hosted on a secure high availability computer cluster with a high-speed external connection to the internet in ST's laboratory (Partner 1A). Data will be archived securely off site to a centrally managed storage area network and to tape storage within the University of Edinburgh data centre. The servers will make full use of the security systems offered by the host operating system (Redhat Enterprise Linux) as well as dedicated hardware firewalling.

eurostemcell.org is currently maintained in a minimal form by temporary support from the FP6 and FP7 projects ESTOOLS and EuroSyStem. This funds a part-time website manager (KD) to curate and develop content. The site is regularly approached by potential partners and has obvious potential for further

development, but this is contingent on additional funding.

Further Development
WP2 will implement multilingual functionality to this site for all pages aimed at non-scientist audiences (KD and ST). This will be achieved through the use of Drupal modules and bespoke configuration, and will allow viewing in up to ten European languages (Czech, Dutch, English, French, German, Italian, Polish, Portuguese, Spanish, and Swedish). Further development will facilitate provision of information appropriately to different target groups, by developing two or more strands of content and navigation (e.g. www.eurostemcell.org/scientists and www.eurostemcell.org/public. *Note that these are not live URLs but are included to give an idea of how the two strands of content could be grouped and accessed*). In addition, to meet the requirements identified in the new project, additional components will be added, including a section providing information on clinical trials (ECRIN), and the inclusion in the FAQ section of information on prospective treatments and 'treatments' currently available but not supported by clinical data. The existing FAQs are based on queries received from patients and other publics and we will continue to use real queries as guide as the site develops. Finally, as visibility of the website is of critical importance, we will continue to tune key tools to optimise search engine results. These include:

- content quality and visibility
- use of search engine-friendly URLs
- information architecture that categorises content in a way that people are looking for it
- optimisation of metadata based on web analytics of which key words people tend to use to search.

Role of participants: KD (Partner 1A) will work with all partners to develop www.eurostemcell.org as a comprehensive, multilingual stem cell information portal. Translation from English into nine additional European languages will be provided by postdoctoral scientists and PhD students from participating institutions and represented consortia. KD will liaise with WP1 and WP3 for further development of functionality.

Theme 2: Website management
2 I Management of web-structure
Website development is a dynamic project. Using analytic tools we will constantly assess user navigation paths through the site and determine how to align visitor access to desired goals or conversion points. We also expect the site's taxonomy to widen and deepen as the site develops – and will regularly assess this for refactoring. Editorial control will be held by KD (Partner 1A) with temporary editorial privileges assigned to others as required.

2 II Management and development of web content
eurostemcell.org currently (Nov 2008) attracts 10,000 unique visits/month – a 650% growth in audience since the site relaunched in January 2008. WP2 is tasked with building on this growth to develop a high impact site covering new developments in research on stem cell biology and regenerative medicine as they come into the public arena. The site will also become a major focus for exchange of technical and accessible information for the stem cell community, science communicators and interested publics.

Coverage of new developments will be achieved by working closely with the information hub in WP1, and with selected scientist reviewers to ensure content reflects established tenets of stem cell biology and the state-of-the-art. The relevance of new developments to different target audiences will be determined and content tailored for the different target groups as appropriate in WP1. WP2 will convert the textual outputs from WP1 into web content, working with scientists, artists and graphic artists where applicable to provide graphics and images that facilitate conceptualisation of scientific concepts. This will be implemented by CB, KD and the information hub team, all of whom have extensive experience in this area (see e.g. the Stem Cell Stories set of films on www.eurostemcell.org). An excellent team of animators and graphic artists skilled in representing scientific concepts is already available through Partner 1A, and can be augmented as necessary.

Development of the site as a major forum for information exchange will be achieved in the first instance by initiating use of the **technical discussion forum** for sharing of technical information between participating laboratories, and by ensuring that queries through the **public forum** are answered promptly and accurately by scientists. We expect usage to build by word of mouth augmented by marketing and promotion at

scientific meetings and conferences, and through patient conferences, science festivals etc. We are not aware of any other specialist discussion forum for technical aspects of stem cell research. KD will moderate both forums, in association with scientific experts who have responsibility for particular areas (i.e. the expert reviewers identified in WP1). Reciprocal links from other well-used, reliable and relevant websites will also be developed, in particular to patient organisations and charities focused on particular diseases and to other sources of stem cell information approved by the EUROSTEMCELL Steering Committee (section 2.1) and will help to drive traffic to the EuroStemCell site and raise its profile.

Finally, we will also promote the website as an outlet and repository for information from scientists and science communication specialists across Europe, in particular those active in stem cell research public engagement activities. In this way, the site can provide a further coordinating and disseminating function, by allowing sharing of tools and activities for public engagement, and by promoting interaction between communicators across Europe.

Role of participants:
KD (Partner 1A) will manage the site on a day-to-day basis, liaising closely with the WP1 committee, the information hub team and WP2 members. KD will manage access privileges and ST (Partner 1A) will provide additional systems administration expertise, including management of StemDB access. DM (Partner 11) also has extensive expertise of website development and will collaborate with KD in this area. All partners will participate in development of the website through provision of content in WP1, by functioning as expert reviewers and moderators and by participating in discussion forums. Partner 10 will provide specialist oversight of ethical issues raised in discussion forums, and of website content related to ethical and societal issues. ECRIN (Partner 8) will work with KD to develop an information resource for stem cell clinical trials and stem cell 'treatments'. Partners 1A, 3 and 5 will take responsibility for development of marketing materials for the website. To allow evaluation of the effectiveness of the website, KD will provide detailed data on website use to BOD at regular intervals, including information on the number of hits received by individual pages.

Deliverables

- A European web-based portal for stem cell information
- A multi-lingual European web-based portal for stem cell information
- Report on development of web-based resources for European non-specialists
- Report on development of web-based resources for European scientists
- Report on development of a European web-based resource for science communicators

Final Deliverable: A high profile centralized multi-lingual European stem cell information portal accessible to citizens and stakeholders

Work package number	3			Start date or starting event:			1				
Work package title	Resources for Public Engagement and for Educators										
Activity Type	COORD			Workpackage Leader			Elena Cattaneo				
Participant number	1A	1B	2	3	4	5	6	7	8	9	10	11
Participant short name	UEDIN	UEDIN	HSR	UMIL	JDRF	UCAM	USHEFF	LIFE&BRAIN	ECRIN	CGR	ULUND	REMEDI
Person-months per participant	8	1	1	3	1	1	1	1	1	1	1	1

Objectives

WP3 addresses the need for direct engagement between the EUROSTEMCELL consortium and its target audiences - to promote an active relationship between stem cell research and European citizens and ensure that information and engagement resources developed are appropriate. To achieve this, we will promote dialogue with key audiences on scientific, clinical, ethical and societal issues related to stem cell research and regenerative medicine by

- Developing resources for public engagement
- Engaging directly with key audiences
- Developing resources for educators

Description of work and role of participants

The FP6 IP EuroStemCell developed a successful model for public engagement with stem cell research and regenerative medicine, based on development of a high quality 'outreach toolkit' and its use in a wide range of public engagement and outreach activities including careers workshops, science festivals, discussion forums, public meetings and as teaching aids. The dialogue mode of communication and engagement was used throughout development of this toolkit, and its effectiveness was evaluated by collation of user feedback and is further evident in the high number of requests for using different components in Europe and world-wide. In **WP3** we will build on expertise gained in FP6 to develop outreach tools and activities covering basic stem cell biology, focusing particularly on developing multi-lingual capacity in existing tools and on developing new tools for engaging on aspects of stem cell research not covered in the initial toolkit. In addition, we will develop resources for educators, specifically focused on areas of schools curricula to which stem cell research is relevant, and will collaborate with the European Network of Science Centres and Museums (ECSITE) to promote engagement with stem cells and regenerative medicine through science museums and science centres.

Theme 1: Development of resources and tools for public engagement.

1.1 Collation and enhancement of existing resources

WP3 Theme 1 will initially focus on collation of existing resources and tools for public engagement, from the participating institutions and represented consortia, and on making key resources available in up to ten European languages. In particular, the set of four DVDs will be updated by inclusion of a fifth short film currently in production on induced pluripotent stem cells, and all five films will be provided in Spanish, Portuguese, Czech and Polish language versions in addition to the six existing language versions. Similarly, the existing Role-play "Ready or not: stem cell therapy for spinal cord injury" will be updated and made available on-line in ten European languages through the web portal developed in **WP2**, and instructions for running the existing dialogue event "the Stem Cell Dream" will also be provided on-line in a multi-lingual format. We will also place emphasis on integrating the outreach and educational resources produced by REMEDI (Partner 11) on mesenchymal stem cells. In addition, the EUROSTEMCELL Information and Communications Manager together with the information hub team will survey the web and literature for outreach tools and activities in this area, and approach the 'owners' of these resources regarding their promotion through the European Stem Cell Portal.

1.2 Development of new resources

Additional components of the toolkit will be developed as the project progresses. Areas in which tools and activities will be developed will be determined by liaison between the WP1 and WP3 committees and WP2 members, advised by the Executive committee, to identify areas not covered by existing resources but of importance for dissemination to European citizens and stakeholders. We have identified the area of regulation of cells by gene networks, and how alterations in these networks may lead to cancer, as underrepresented in our current repertoire of activities, and TG (Partner 9) together with the EUROSTEMCELL Information and Communications Manager and KD (Partner 1A) will lead development of a resource in this area. We will also review outreach tools available for public engagement in the areas of neurological repair, and muscular repair, since these are the main focuses of two of the participating consortia (NEuroStemCell and OptiStem). As in previous activities, we will use a dialogue mode in developing each of these resources, by ensuring that the resources and tools under development are piloted on several test audiences before production in their final form and release for widespread use, and where appropriate we will work collaboratively with artists to enhance accessibility and visual appeal. All new resources will be available multi-lingually. Only a limited amount of funding is available from this coordinating action to support these activities, and this will be focused on the three topics highlighted above. However, we anticipate that there will be a high demand from participants for development of further engagement resources and will therefore seek additional funding to contribute to development of all of these activities. In addition, some resource development will be cofunded by EUROSTEMCELL and participating consortia, and by EUROSTEMCELL and new consortia funded in FP7 calls; plans already exist for joint outreach and public engagement activities between EUROSTEMCELL and a FP7 application currently under consideration for a large scale project coordinated by Pipeleers (Partner 4) on beta cell therapy for type I diabetes.

Role of participants: the EUROSTEMCELL Information and Communications Manager, together with the WP committee will coordinate activities in this theme. TG (Partner 9) will lead development of a resource on transcriptional networks in normal and malignant blood; EC and GM (Partner 3) will coordinate development of a resource in neurological repair; GC (Partner 2) and CB (Partner 1A) will coordinate development of a resource in muscular repair. SP (Partner 1B) will advise on evaluation of all new resources. ECRIN (Partner 8) will advise on clinical research and clinical trials. GH (Partner 10) will advise on ethical and societal content. The EUROSTEMCELL Information and Communications Manager will coordinate incorporation of activities from partner institutions and represented consortia, and from other sources.

Theme 2: Engagement with key audiences

An important component of WP3 will be direct engagement with the different target audiences. For resource development, dialogue of this type is imperative as only in this way is it possible to gauge which issues most interest the different audiences groups, where common misconceptions lie and at what level information should be pitched. We (SP, Partner 1B) have extensive experience in designing and evaluating different types of public engagement events, which will inform all activities in this WP. In particular, we are interested in events of two types:

1) EUROSTEMCELL members are already active in local Patient Groups and in Science Festivals, and EUROSTEMCELL will support continued engagement in these activities. We will also contribute to events at partner institutions and to strategically important events (eg European Patient conference, major European clinical conferences, ISSCR), in particular targeting patient groups, clinicians and the general public.

2) We will also hold a small number of focus groups and dialogue events, to gauge opinion in the field and to pilot and subsequently refine the resources under development in **Theme 1** above.

Target audiences for both 1) and 2) are stakeholders and publics in all sectors, including school students, teachers, the lay public, patient groups, legislators and regulators, and events of both types will be supported by provision of high quality information, on-line and produced as leaflets and brochures, which will be produced by the EUROSTEMCELL Information and Communications Manager in conjunction with the Communications Managers of the participating consortia and centres. Information provided will focus on fundamental principles, and areas in which information in the public domain is confusing or often misrepresented, and will emphasize both applications and benefits to citizens and the relative progress towards these goals. Literature and web-content will be provided in the local language as appropriate and in

English.

In addition, we will increase the European impact of our activities and resources by engaging with the stem cell communications network identified in the FP7 large-scale collaborative project EuroSyStem to promote widespread application of resources hosted by www.eurostemcell.org, including those developed by this project. This will provide pan-European opportunities for engagement with first class stem cell research and will further encourage use of the website as a focal point for showcasing activities made in different centres (**WP2**) and making them more widely available. Finally, the resources generated, developed or promoted in this project will be made available to a **Europe-wide network of 450 science museums and science centres** through the European Network of Science Centres and Museums - comprising **ECSITE-europe** and **ECSITE-uk** - who will promote them to member institutions through their websites. ECSITE centres and museums have a total of 60M visitors a year Europe-wide, and 19M in the UK.

Role of participants: the EUROSTEMCELL Information and Communications Manager, together with the WP committee will coordinate activities in this theme. The main participants will be the Communications Officers from the participating consortia and centres, and scientists from represented institutions with interest in public engagement. Promotion of EUROSTEMCELL outreach tools and activities to science centres and museums will be led by **ECSITE**, who we will subcontract for this purpose.

Theme 3: Development of resources for educators

In the third component of WP3 we will develop resources for educators, aiming specifically at secondary school science and ethics teachers and at Universities. We will initially review national curricula in these subjects to identify points at which information on stem cells and regenerative medicine may be used – for instance in projects or as part of the basic science curriculum. We will specifically focus on 12-13 year olds (i.e. the stage immediately prior to specialisation), and on pupils in their final two years (i.e. the stage immediately prior to further education choices). Rather than providing coverage of all European countries, due to the importance of local links in promoting uptake of materials, effort in this theme will initially focus on countries represented by the partner institutions and on the International Baccalaureate, and will then expand to encompass countries represented in the participating consortia. A report detailing this information will be adapted into web-content for teachers and made publicly available. Once this exercise is complete, a team composed of EK (Partner 1A), SP (Partner 1B), SD (Partner 6), DM (Partner 11) and other interested parties from the participating consortia will design educational information resources that can be adapted for use in curricula across Europe. Some of these materials are already in hand – for instance the Stem Cell Stories DVDs were produced in chaptered format for this purpose, and are already recommended International Baccalaureate teachers resource and are widely used by teachers in Scotland (all secondary schools in Edinburgh and in Ayr); and the Role Play "Ready or not- stem cell therapy for spinal cord injury" has been used successfully to promote debate in this area in 16 and 17 year old pupils. These resources will be available multi-lingually, and will be kept up to date for the duration of the project. In addition, we will provide accurate on-line briefing notes for teachers on aspects of stem cell research relevant to the curriculum, and where possible will also provide short powerpoint presentations particularly including visual representations of the impact of research on citizens - again, all materials developed will be multilingual. For development of materials aimed at 12-13 year olds, we will collaborate with **Sci-Fun**, a specialist schools outreach team at UEDIN (Partner 1). Feedback forms will be provided online and collated by the EUROSTEMCELL Information and Communications Manager.

All materials will be available through an 'educators' section on www.eurostemcell.org, and additionally, we will use schools-liaison offices in the participating Universities to provide links to Local Education Authorities or their equivalents.

Materials for undergraduates will be provided mainly through informed non-specialist web content, and promoted through appropriate teaching streams and libraries in all partner institutions and institutions represented in participating consortia. Where specific elearning resources are available links to these will be provided through the website once approval has been obtained from the relevant institution.

Role of participants: the EUROSTEMCELL Information and Communications Manager, together with the WP committee will coordinate activities in this theme. The main participants will be the Communications Officers from the participating consortia and centres, and scientists from represented institutions with interest in public engagement. EK (Partner 1), SD (Partner 6) and DM (Partner 11) have extensive experience of

developing educational materials and will play leading roles in this theme.

Deliverables

- A multi-lingual toolkit for public engagement with stem cell research
- Report on public engagement with target audiences
- Report on provision and uptake of resources for educators

Final Deliverable: Enhanced public engagement with stem cell research throughout Europe.

Work package number	4	Start date or starting event:	1
Work package title	Establishment and dissemination of best practise.		
Activity Type	COORD	Workpackage Leader	DAC

Participant number	1A	1B	3	12
Participant short name	UEDIN	UEDIN	UMIL	DAC
Person-months per participant	4	1	1	4

Objectives

- Link to and share best practice with other relevant organisations (eg ISSCR, National and International stem cell registries, national stem cell networks, new FP7-funded stem cell projects)
- Evaluate the impact of dissemination activities
- Disseminate EUROSTEMCELL outreach toolkit, with advice for Scientific discipline specific modification, to beneficiaries and stakeholders in European research
- Disseminate best practises in large–scale management and dissemination of scientific information to European Stem Cell and Life Sciences communities

Description of work and role of participants

Theme 1: Linking to and sharing best practise with other organisations

EUROSTEMCELL will develop a sophisticated model for coordinating dissemination of research advances to a wide range of audiences, spanning citizens and stakeholders at all educational levels. The unique features of this model are i) coordination of the activities of a large number of consortia and centres, each focussed on a different aspect of stem cell research and /or regenerative medicine; ii) the active and highly structured participation of scientists in these consortia in identifying areas of existing knowledge and new advances for widespread dissemination; iii) the development of a specialist team of science communicators and a social scientist to work closely with the scientists to adapt outputs for dissemination, tasked with increasing clarity of information without simplification of the underlying science; iv) the focusing of the web-based dissemination activities of all of the participating scientists on a single information portal, www.eurostemcell.org and development of this web-portal as a multi-lingual resource, to serve citizens across Europe; v) the coordination of development and use of resources and activities for public engagement among the participating groups; and vi) provision of a centralized archiving facility for the outputs of projects funded by the framework programmes and other European stakeholders. To our knowledge, this model is unique in Europe. However, at present it is a prototype and more can be learned by sharing best practise with other organisations also engaged in disseminating high quality information on stem cell research and regenerative medicine. Therefore, WP4 will establish links to existing organisations, including the International Society for Stem Cell Research (through PA, Partner 6, TG, Partner 9, who are members of the ISSCR management group, and consortia members active in ISSCR), the International Stem Cell Initiative (PA, Partner 6), national stem cell networks (e.g CB, SP, Partner 1; PA, Partner 6; OB, Partner 7), international and national stem cell registries (e.g. PA, Partner 6; TG, Partner 9). The aim will be to incorporate successful modes of dissemination into EUROSTEMCELL's activities as the project progresses, and similarly to share effective strategies developed in EUROSTEMCELL. Opportunities for interaction with bodies of this type are available electronically, and at major scientific meetings (e.g. ISSCR annual meeting; the annual EMBO-sponsored European meeting 'Advances in Stem Cell Research'; Gordon and Keystone conferences, etc).

Theme 2: Evaluation of dissemination activities

Crucial to the success and therefore long-term sustainability of a project of this nature is critical evaluation of the impact of its constituent activities. Therefore, we will produce a comprehensive annual evaluation of the functionality of the information management structures implemented in WP1, and the impact of the web-

based dissemination strategies implemented in WP2 and the strategies and resources for enhancing public engagement and school and university teaching developed in WP3. SP (Partner 1B) and KD (Partner 1A) are trained and have substantial experience in evaluating activities of this type and will be responsible for development of evaluation strategies and coordination/analysis of data. Building on research findings and methodologies from the social sciences and communication studies, we will employ a range of qualitative and quantitative approaches for this purpose. We will regularly analyse the extensive data on site usage, visitor behaviour and navigation pathways that can be extracted from web analytic software, particularly as we make new resources, functionality and languages available online. We also plan to select other sites that operate in similar spaces (the dissemination of life science information) and analyse their ranking and traffic for the purpose of benchmarking. At a more qualitative level, the eurostemcell.org site itself is a useful resource – it can be used to host informal user polls, and our growing database of registered users provides a large population from which to sample for more detailed evaluation of individual user experience – through surveys or interviews. Where problems are identified, we will implement changes in practise after comprehensive discussion of alternative approaches by the Executive and Steering Committee.

Theme 3: Dissemination of the "Outreach Toolkit"
To ensure that the resources and activities for public engagement are utilised as widely as possible, we will generate a complete package composed of the component parts of the "outreach toolkit" and success stories, along with advice/instructions on use of the individual components in a variety of settings, on audiences suitable for each component and on entities with whom outreach and communication can be performed (as an example, patients associations via ECRIN; science centres and museums via ECSITE-uk and ECSITE-europe).

We will then promote the package to patient associations, teachers' networks (and directly into schools where possible), Universities; through organisations concerned with public understanding of science such as the British Association for the Advancement of Science (BA), the Wellcome Trust, European Molecular Biology Organisation (EMBO), RCUK Science in Society Unit, Royal Society, European Science Events Association (EUSCEA); and through relevant publications including the Times Educational Supplement, Guardian Education Supplement, Science in School (EMBO). We will also promote the toolkit through the network of science communicators identified in StemDirect, as described in WP3. We will encourage and work with other organisations to adapt the package to meet their specific purpose.

Online access to the best practise package will also be advertised at European and international stem cell meetings, such as the annual Advances in Stem Cell Research series.

Theme 4: Dissemination of best practise in large–scale management and dissemination of scientific information
As described herein, EUROSTEMCELL will establish best practice in dissemination of scientific advances to citizens and stakeholders across Europe. An important outcome will therefore be dissemination of the models established in this coordination action to other projects in Europe and world-wide, and also to facilitate use of the information management and dissemination framework established in this coordination action by other European stem cell scientists and projects. Therefore, once our annual evaluation data indicate that a successful model for large–scale management and dissemination of scientific information has been established, we will produce a comprehensive report detailing the approach. This will be published in a peer-reviewed journal, and will also be made publicly available on-line. In addition, we will actively promote the report to all other European Commission funded stem cell projects in Europe - both ongoing and newly funded - identified by liaising with the Commission. We will also promote it more widely among Life Sciences projects. Finally to ensure maximum coverage to the scientific community we will liaise with as many professional associations in the life science field as possible.

Deliverables

- Report on impact of dissemination activities (12, 24, 36, 48)
- Report on utilisation of the "outreach toolkit" (12, 24, 36, 48)

Final deliverable: Report on best practise in large–scale management of scientific information and dissemination of key advances to European citizens and stakeholders.

Work package number	5	Start date or starting event:	1
Work package title	Management		
Activity Type	COORD	Workpackage Leader	UEDIN
Participant number	1A	3	12
Participant short name	UEDIN	UMIL	DAC
Person-months per participant	2	1	2

Objectives

- To effectively facilitate the interaction of the large number of groups in the project
- To quality control the effective dissemination of the research and clinical data
- To manage the whole implementation of EUROSTEMCELL

Description of work and role of participants

Description of Work

The consortium management is structured in 3 different bodies:

- Steering Committee (internal members)
- Executive Committee (internal members)
- International Advisory Panel

The composition, roles, responsibilities and decision making authority of the different bodies is detailed in Section 2.1, which will also be **detailed in the consortium agreement (CA).** Beneath we explain the specific management actions

i) Quality control and assessment of progress and results

Independent quality control of the work performed and its overall assessment is addressed in three different bodies. Two internal committees: **the Executive Committee** (WP leaders and Coordinators of participating large-scale consortia) and the **Steering Committee** (all PIs and/or authorised representatives) will routinely address the work performed and evaluate the information generated for reliability, reproducibility and applicability.

One external committee, the **International Advisory Panel**, composed of established science communications experts, will provide an independent perspective on development of the project and its potential impact. They will also provide advice on potential new strategic avenues and areas where further work can be developed by the partners to further augment scientific communication.

They will also provide a complete overview of the operational functioning of the project, if it is achieving its objectives and how it can be improved. At the end of year 2, with the Executive Committee, they will evaluate each work package and provide recommendations for the closure of specific avenues of activities and the expansion of others to ensure that resources are correctly used for optimal implementation.

ii) Overall Consortium management

The consortium management tasks, to be performed by the **Executive Committee supported by the Project Manager** are:

- Approval of the detailed project plan on a sub-task/partner level including detailed budgeting
- Strategic and executive supervision of the progress of the project (tasks, deliverables, milestones, budget)
- Writing/compilation of management summaries, progress reports including mid-term assessment, task reports, annual reports and final report
- Monitor and collection of individual partner administrative documents and statements of expenditures,

and transmission to the Commission.
- Review of access to the communication budget by those partners with specific projects and events planned for which documents and information from work package 1 could be best leveraged.
- Facilitating communication between partners and coordination between the consortium parties
- Day to day administrative management and liaison with the Commission for contractual compliance
- Preparation of any documents connected with the project from the consortium to the Commission

iii) Work package management

The management of each work package and its rationale is described in section 2.1 and will either be via a direct work package coordinator or by committee with a chair. For each work package they will assess the following on a routine basis:

1. The work to be performed and its relation to the overall strategy of EUROSTEMCELL
2. The assigned and required budget and effort
3. The available resources
4. The members of the work plan
5. The potential pivotal and risk factors
6. The timetable of the task
7. The expected milestones and deliverables
8. Frequency of all team meetings and scheduling
9. SMART analysis of project objectives (specific, measurable, achievable, realistic, time-bound)

All of this will be formatted into the official work plan for each work package, which will become the blueprint upon which progress is measured and all changes recorded. The information will also be located on the EUROSTEMCELL intranet (administrated via WP2), to permit document archiving, workflow, communication and change control.

iv) Risks and risk management

The structure of EUROSTEMCELL and its management have been designed to routinely assess risks and identify and/or predict new ones. The diverse quality control structures will ensure that risks are identified in advance and assessed/integrated into the work plan. Major risks that have been identified so far include:
a) **Partners do not collaborate and coordinate their activities:** Non-collaborating partners will be informed by the management and helped to collaborate/coordinate with other teams better. Failing to achieve this, as determined by the Executive Committee and with consultation by the Steering Committee, by the end of Year 2 will result in suspension of funding for the last two years and reallocation to other partners.
b) **Project starts to exhaust funds:** Based on the quality of the science being performed and that to be disseminated, there is the potential risk that there will not be sufficient funds to perform all the proposed activities described in work packages 3 and 4 in the later stages of the project. We have focussed a high proportion of the resource on information management and the website, since these are highly defined in terms of resource requirement and are crucial to the success of the project. We anticipate that the demand for resources available in WPs 3 and 4 will be high and from the outset will seek to address this issue by seeking additional funding from the EU and national funding bodies as appropriate to augment the funding available from EUROSTEMCELL in this area. Opportunities for commercial sponsorship will be limited, however, as it is essential to maintain the actual and perceived independence of EUROSTEMCELL.
c) **Components of the work plan prove sub-optimal:** Evaluation of all project activities is explicitly built into the work plan of EUROSTEMCELL. Specifically, WP4 will provide annual critical review of all project components. The IAP will also review progress annually. Any weak areas of the project will be identified by this mechanism, and the appropriate remedial actions will be taken by the Executive Committee in consultation with the Steering Committee.

Deliverables

- Annual management report on activities of EUROSTEMCELL (12, 24, 36, 48)

Final deliverable: Final report on activities of EUROSTEMCELL (48)

Table 1.3e Summary of staff effort

Participant no./Short name	WP1	WP2	WP3	WP4	WP5	Total person months
1a Blackburn	36	36	8	4	2	**86**
1b Parry	1	1	1	1	0	**4**
2 Cossu	1	1	1	0	0	**3**
3 Cattaneo	1	1	3	1	1	**7**
4 Pipeleers	1	1	1	0	0	**3**
5 Smith	1	1	1	0	0	**3**
6 Andrews	1	1	1	0	0	**3**
7 Brüstle	1	1	1	0	0	**3**
8 Demotes	1	1	1	0	0	**3**
9 Graf	1	1	1	0	0	**3**
10 Hermeren	1	1	1	0	0	**3**
11 Mitchell	1	1	1	0	0	**3**
12 DAC	0	0	0	4	2	**6**
Total	**47**	**47**	**21**	**10**	**5**	**130**

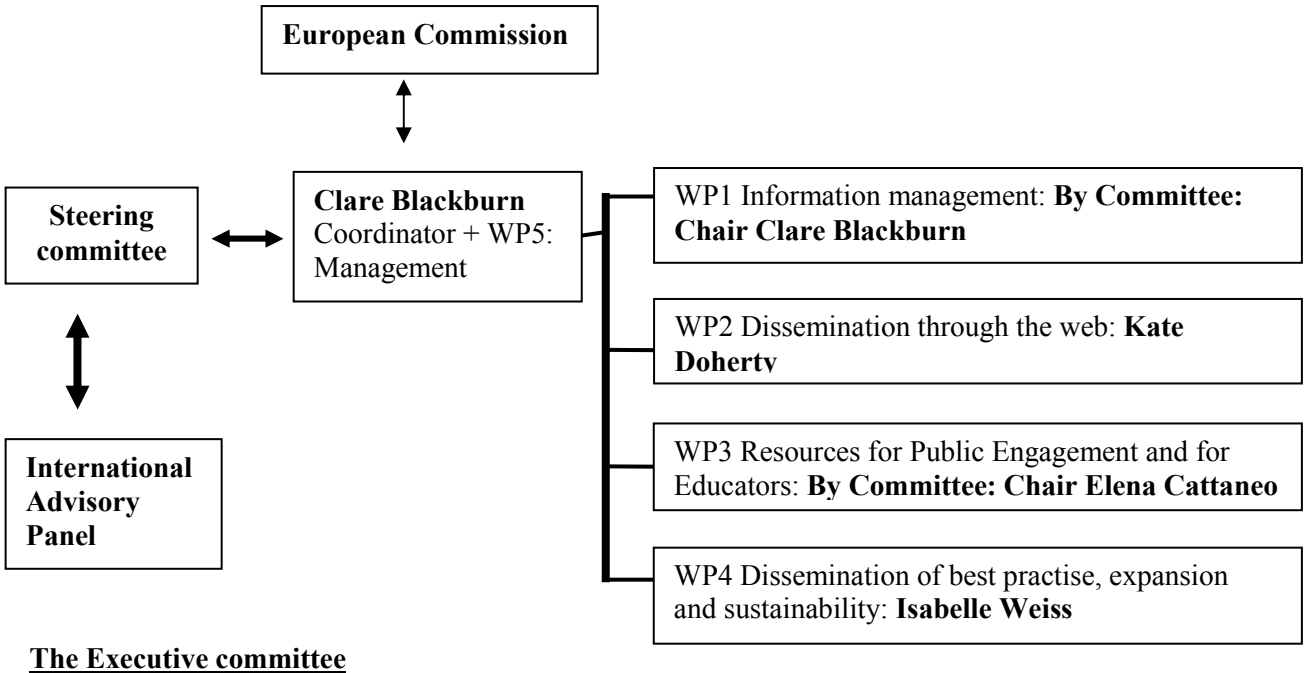
v) **Significant risks and associated contingency plans**

These are described in WP5 – Management, above.

2. Implementation

2.1 Management structure and procedures

Project organisation and organigramme



The Executive committee

Members of the Executive committee

The Executive committee will be composed of the coordinator, Dr Clare Blackburn, the heads of the different work packages and the heads of the participating large-scale consortia. In the areas where decision-making is to be **made by committee**, **the chair** of that committee is indicated. The **management experience** of the work package leaders and composition of the committees is described below:

Work package 5: Clare Blackburn: (coordinator)
She is acting Head of the Institute for Stem Cell Research, sitting on the School of Biological Sciences Scientific Executive Committee, and is a member of the Executive Committee of the Centre for Regenerative Medicine (which encompasses ISCR) in Edinburgh. She was a member of the Board of Directors of the FP6 IP EuroStemCell and devised and led the flagship project on Training, Public Engagement and Outreach in that consortium. She now has this role in the FP7 projects EuroSyStem and OptiStem. Highlights of the EuroStemCell training and outreach programme included initiation and organisation of a successful European Summer School on Stem Cells and Regenerative Medicine (now in its fifth year), and a broad outreach programme providing information/resources for a range of publics. She holds peer-reviewed funding through the Wellcome Trust Society Awards scheme to produce a feature length documentary film on stem cells.

Work package 1: By Committee - (Chaired by C. Blackburn)
This work package will be chaired by Clare Blackburn who will coordinate a committee composed of Giulio Cossu (coordinator of OptiStem), Elena Cattaneo (coordinator of NEuroStemCell), Daniel Pipeleers (coordinator of BetaCellTherapy), Austin Smith (coordinator of EuroSystem), Peter Andrews (coordinator of ESTOOLS), Goran Hermeren (Professor Emeritus of Medical Ethics, Uni Lund), Oliver Brüstle (Director, Life and Brain GmbH, Bonn), Thomas Graf (Director, CGR, Barcelona), Sarah Parry (lecturer in Sociology and leader of the BBSRC project "Talking Stem Cells", UEDIN) and Christine Kubiak (project manager ECRIN) or their nominated representatives.

Role of committee: They will primarily review all the scientific information that issues from each project or network, provided by the partner scientists, to ensure that important advances are identified for dissemination, and similarly will review the wider field to identify advances requiring dissemination. This information will be provided as part of the ongoing activities of each project as part of their research activities. Relevance to each target group will be assessed, including ethical components, impact on patients and how the information should be edited to ensure penetrance to the target audience, including press and media. This committee will provide strategic guidance

to the EUROSTEMCELL Information and Communications Manager in Edinburgh (via line manager, C. Blackburn). They will also identify local scientists to act as translators of outputs written in the first instance in English. Outputs will be sent to work packages 2, 3 and 4.

Meetings will be held either physically or via web conferencing on a quarterly basis, while decision making on editing of documents will be performed exclusively via electronic communication.

Work package 2: Kate Doherty
Kate Doherty developed and implemented the highly regarded communications and outreach programme of FP6 IP EuroStemCell – which included producing and distributing the award-winning *A Stem Cell Story* and EuroStemCell's other 3 films. She now manages the European Stem Cell Portal www.eurostemcell.org, and has acted as project manager or consultant on several other web development projects. She has also worked in the adult learning sector, managing high-profile engagement campaigns including Scottish Adult Learners' Week. Kate has several years' film industry experience, and as Project Manager for Film New Zealand developed some of the award-winning collateral that positioned New Zealand as "The home of Middle-earth" when *Lord of the Rings* was produced there – including a multi-partner web portal.

Work package 3: By Committee - (Chaired by E. Cattaneo)
This work package will be chaired by Elena Cattaneo who will coordinate a committee composed of Dave Stevens (Communications and public engagement officer, CRM, Edinburgh), Sarah Parry (lecturer in Sociology and leader of the BBSRC project "Talking Stem Cells"), Oliver Brüstle (Life and Brain) Christine Kubiak (project manager ECRIN), Gloria Lligadas (Head of Communication & Public Relations, CRG), Sebastien Duprat (Training and Outreach Officer, ESTOOLS), Emma Kemp (Communications, Outreach and Public Engagement Manager, EuroSyStem), Jan Van Autreve (Communications Manager, BetaCellTherapy Consortium), Gianni Munizza (Communications Manager, NEuroStemCell), Clare Blackburn and the EUROSTEMCELL Information and Communications Manager.

Role of committee: Review information received from work package 1 and identify appropriate communication strategies based on relevance of the information to the proposed target groups. Generate communication packages and tools aimed towards informing educators of stem cell research advances, and successful methods so far implemented by the partners for communicating stem cell research educationally. Evaluate and provide feedback on the impact of the information disseminated.

Meetings will be held either physically or via web conferencing on a quarterly basis, while decision making on communication strategies will performed exclusively via electronic communication.

Work package 4: Isabelle Weiss
She has extensive experience in the management of European projects. She is currently managing two FP6 projects, NeuroNE a 4-year European Network of Excellence and Trans-Vac a 2-year Marie Curie Transfer of Knowledge network, and is presently involved in the negotiation of a Marie Curie Training Network and an FP7 project on NeuroDegeneration. She has extensive experience in public fund raising with a cumulative value of over € 10 million raised for research.

Committee Management of work packages (rationale)

A committee management approach has been selected for work packages 1 and 3 for the following reasons:

- To ensure that the information being disseminated is driven by the scientists and the science performed relative to the needs of the target groups
- To guarantee that the information is of high scientific quality with a measurable impact, to prevent the generation of empty promises and hope
- To integrate collective expertise in both the scientific and communication fields at the theoretical and activity level
- To ensure sharing of best practise and generation of enhanced brain storming and insight particularly with reference to the expertise of the partners actively performing scientific dissemination activities as part of their daily duties
- To ensure that all target groups receive comparable information on the same subject which has been edited based on their level of understanding

Responsibilities
The Executive *Committee* shall co-ordinate the implementation of the *project* activities *and* will assume overall responsibility for liaison between all the *contractors* in relation to the *project*, and for analysing and approving the results.

The Executive *Committee* shall be responsible for:

(a) **routine assessment of progress of EUROSTEMCELL as a whole**, in relation to the activities for technical, financial and/or exploitation/ *dissemination* issues

(b) **provide feedback** to the work packages on the progress, **integrating all new data including assessment of impact of the information being disseminated, to suggest optimised and new possible approaches**

(c) **Quality control** of generated data and milestones prior to reporting and presentation to the Steering Committee

(d) ensuring that all **work meets functional requirements** and that all work is in accordance with the project deliverables, including implementing Steering Committee decisions

(e) Maintaining a **complete overview of the progress** of the project and its relation to external progress in the field

(f) **implementing changes** in work sharing, budget and participants

(g) **supporting the *Co-ordinator*** in fulfilling all the contractors obligations towards the European Commission including reporting

Meetings

The Executive *Committee* shall meet quarterly at the request of its co-ordinator.

Meetings will take place principally via video/web based conferencing.

All meetings will be minuted and the minutes transmitted to the members of the Executive *Committee* without delay. The minutes shall be considered as accepted, if within fifteen (15) calendar days from receipt no *contractor* has objected in a traceable form to the *Co-ordinator*.

The Steering Committee

Members of the steering committee

Heads of each partner (as an authorised representative), chaired by coordinator

Responsibilities

The Steering *Committee* will assume overall responsibility for proper administration of the *project* and for implementation of the provisions contained in the *consortium agreement (that will be prepared prior to project initiation)*.

This will include:

a) Periodic strategic evaluation of the progress of the projects objectives in relation to risk factors
b) Decision on access to and tasks to be performed via the communication action budget
c) Agreement on dissemination and publicity actions
d) Ethical review of all information
e) Evaluation and adaptation of annual financial expenditure and plan
f) Evaluation of strategic direction of project
g) Quality control of tasks performed

Decisions

Each entity has 1 vote independent of how many groups are represented per partner

All decisions of the Steering *Committee* shall be taken by simple majority.

Meetings

The Steering *Committee* shall meet at least annually in principle at the request of its co-ordinator.

Meetings will take place principally in person.

All meetings will be minuted and the minutes transmitted to the members of the Steering *Committee* without delay. The minutes shall be considered as accepted, if within fifteen (15) calendar days from receipt no *contractor* has objected in a traceable form to the *Co-ordinator*.

International Advisory Panel

A panel composed of external experts in science communication will be responsible for independent review of the activities to be performed by the EUROSTEMCELL partners and provide feedback on the quality of the information distributed to the diverse target groups indicated in the work packages. A provisional list of experts suitably qualified for this panel are:

Anne Kerr is Professor of Sociology and Pro-Dean for Research at the University of Leeds.

Ana Godinho is Head of Science Communication and Outreach at the Gulbenkian Institute in Lisbon, Portugal.

Malcolm Love is Professor of Public Engagement in Science and Engineering at the University of Bristol, UK, and is also an independent media and communication skills consultant.

Doug Sipp is Science Communications and International Affairs manager at the Centre for Developmental Biology in Kobe, Japan.

Halldór Stefánsson is head of the Science and Society programme at the European Molecular Biology Laboratories, Heidelberg.

All communication with the IAP will be via electronic communication methods, which will be performed annually.

The coordinator : Dr Clare Blackburn

Responsibilities

Pursuant to the *Contract,* the *Co-ordinator* will be responsible for the following tasks and functions

(a) overall management of the *project* with the support of the Executive committee, if necessary

(b) chairing the Steering and Executive *Committees*

(c) preparation of the meetings and decisions of the *Steering and Executive Committee*

(d) distribution of any documents and information connected with the *Contract* performance among the *contractors* concerned

(e) preparation and distribution of meeting minutes

(f) over viewing the financial accounts with respect to the payments of funds granted by the *European Commission*

Work package Coordinators

The work package coordinators will ensure that the objectives of the project are performed within the strategy of the work plans through the active management of the work package under their responsibility.

This will entail accordance with the agreed milestones, production of deliverables and ensuring that each participant fulfils their commitment to each work package.

It is the work package co-ordinators responsibility to communicate all updates on the project, including delays, changes and unexpected results to the Executive committee.

The meeting schedule within each work package will be performed based on the specific aims of the work package.

Project management

The Coordinator, Executive and Steering Committees will receive active support for the implementation in the form of consortium management, legal and financial issues from Jonathan Dando (Dando and Colucci Ltd). He has been a member of the executive committee and project manager for three large European research partnerships: he has also been both an advisor and a member of the board of directors for the Marie Curie Fellowship Association.

Previously he was the Director of the international projects department for INSERM Transfert managing 20 projects with over 500 million€ in costs on international projects, and at present is the consortium manager for three FP7 funded projects in spinal cord repair, stem cell research and biomaterials.

Responsibilities

a) Manage resource engagement and level of integration
b) Activate and manage financial plan including timely collection and preparation of statements
c) Identify and assess risk factors for whole project
d) Alerting the Executive Committee in case of non-delivery and/or default of partners
e) Liaising with partner institutes to address intellectual property and confidentiality issues (see section 3.2)

PARTNER 1A –MRC Centre for Regenerative Medicine (CRM), Institute for Stem Cell Research (ISCR), University of Edinburgh, UK

Principal personnel
Clare Blackburn, PhD - Reader and acting Head of the Institute for Stem Cell Research.
Simon Tomlinson, PhD - Lecturer in Bioinformatics
Claus Nerlov, PhD – Chair in Stem Cell Biology

Key supporting staff
Emma Kemp, PhD - Communications and public engagement officer, EuroSyStem (0.8 FTE); Dave Stevens, PhD - Communications and public engagement officer, MRC (0.6 FTE); Kate Doherty - EUROSTEMCELL website manager (0.6 FTE [currently 0.2 FTE])

Role in the project
Blackburn is the Coordinator of the project and will contribute extensively to all work packages. Tomlinson will provide informatics expertise to underpin the website and the StemDB database and will also contribute to WP1 and WP5. Nerlov will provide expertise in cancer stem cells and will contribute to WPs 1, 2 and 5.

Expertise and competence
Blackburn has extensive experience of leading outreach and communication to the public. During the FP6 IP EuroStemCell she devised and developed an "outreach toolkit", suitable for use with a range of audiences (see www.eurostemcell.org). The communications and outreach team at CRM has substantial further expertise in public engagement and outreach including devising, developing and running events, development of public engagement activities; and evaluation. Target audiences have ranged from school students, teachers, the general public, University students, scientists, clinicians, patients, journalists, politicians, regulators and legislators. Blackburn is also an experienced stem cell biologist. Tomlinson has substantial expertise in informatics, database development and management, and is also an expert bioinformatician. Nerlov is a leading stem cell biologist focused on molecular regulation of normal and malignant stem cells. Doherty, Kemp and Stevens are all science communications professionals. Doherty has also worked in the film industry, and produced all of EuroStemCell's films. Kemp has expertise in producing educational resources.

Resources
The ISCR, University of Edinburgh is an internationally recognized interdisciplinary research institute focused on mammalian stem cells (www.iscr.ed.ac.uk), with strengths in ES and fetal and adult tissue stem cell biology. ISCR forms part of the MRC Centre for Regenerative Medicine (CRM), a new initiative whose expertise spans basic, translational and clinical stem cell research (www.crm.ed.ac.uk). CRM is the host for the European Stem Cell Information Portal www.eurostemcell.org. Tomlinson curates the StemDb data management and analysis database generated as part of the EuroStemCell integrated project from ISCR.

Experience in transnational consortia
Blackburn led the Training and Outreach activities of the FP6 IP EuroStemCell, and currently directs these activities in two FP7 large-scale collaborative projects, EuroSyStem and OptiStem. She is a Principal Investigator in all three projects. Tomlinson participated in the FP6 IP EuroStemCell, where he led the flagship project to design a data management and analysis platform, StemDB. He is a Principal Investigator in the FP7 consortia EuroSyStem and ESNATS. Claus Nerlov was a WP leader in the FP6 IP EuroStemCell and leads the FP6 STREP EuroCSC. He is a PI in the FP7 large scale project CardioCell.Doherty was previously Communications and Outreach Officer for the FP6 IP EuroStemCell, and now manages the European Stem Cell Portal www.eurostemcell.org.

Most relevant publications, patents or products
- "Stem Cell Stories " a quartet of short films on stem cell biology and related ethical and societal issues – including "*A Stem Cell Story"*. Director Cameron Duguid, Producer Kate Doherty, Exec. Producer, Clare Blackburn. Award winning 15 minute animated documentary on stem cell biology.
    - Best TV production/Video, Tromso Science Media Festival, Norway June 2006;
    - Best short film, SCINEMA Science film festival, Sydney, Australia, August 2006.
    - Finalist, 2nd Science Film Festival Bangkok, Thailand, November 2006.
- European Stem Cell Information Portal: www.eurostemcell.org

PARTNER 1B - Research Centre for Social Sciences, University of Edinburgh

Principal personnel
Sarah Parry, PhD – Lecturer in Sociology, Research Centre for Social Sciences and leader of the ESRC/BBSRC project "Talking Stem Cells: The Social Dynamics of Public Engagement in Stem Cell Research"

Role in the project
Parry will contribute to WPs 2-5, particularly by providing expertise on public engagement strategies and impact evaluation.

Expertise and competence
Parry has conducted research on public engagement in science, technology and medicine since 1999. Primarily in the context of stem cell research, but also genetic databases, her research has focused on the role of public engagement in contemporary society and politics. As part of this work, Parry has led an ESRC/BBSRC project 'The Social Dynamics of Public Engagement in Stem Cell Research', (ESRC programme on Stem Cell Research – The Economic and Social Agenda, with Sarah Cunningham-Burley, Wendy Faulkner, and Austin Smith). This project involved scientists, clinicians, patient groups, nurses, schools and various community groups. The project both developed innovative public engagement events and studied and evaluated their dynamics. Parry also serves on the Evaluation Committee for Edinburgh Beltane: Beacons for Public Engagement, which is one arm of the UK's *National Co-ordinating Centre for Public Engagement*.

Experience in transnational consortia
Parry was an expert member for Riskbridge' an FP6 Co-ordination Action on Integrative Approaches to Risk Governance.

Most relevant publications, patents or products

Parry, S. (2003) 'The politics of cloning: Mapping the rhetorical convergence of embryos and stem cells in parliamentary debates', *New Genetics and Society*, Vol. 22, No. 2, pp. 177 – 200.

Parry, S. (2006) '(Re)Constructing embryos in stem cell research: Exploring the meaning of embryos for people involved in fertility treatments', *Social Science & Medicine*, Vol. 62, No. 10, pp. 2349 - 2359 (May 2006).

Haddow, G., Cunningham-Burley, S., Bruce, A. and Parry, S., (2008) 'Generation Scotland: Consulting publics and specialists at an early stage in a genetic database's development', *Critical Public Health*, Vol. 18, No. 2, pp. 139 – 149.

Parry, S. (2009) 'Stem cell scientists' discursive strategies for cognitive authority', *Science as Culture*, Vol. 18, No. 1.

Parry, S., Cunningham-Burley, S., and Faulkner, W. (in progress) 'Public Engagement as a Boundary Object: Towards an understanding of heterogeneous agendas', *British Journal of Sociology*.

Non-peer reviewed publications
Cunningham-Burley, S., Haddow, G. and Parry, S. (2006) ''Talking the talk' and 'walking the walk': The challenges of public engagement research', *Genomics Forum Newsletter*, Issue 4.

Parry, S., Cunningham-Burley, S., Faulkner, W., and Bates, S. (2007) 'The perils of public engagement', *Genomics Forum Newsletter*, Issue 6.

PARTNER 2 - Fondazione San Raffaele Monte Tabor – Stem Cell Research Institute

Principal personnel
Giulio Cossu, PhD – Director, Stem Cell Research Institute

Key supporting staff
Debora Vettori – Directors assistant, Stem Cell Research Institute

Role in the project
Giulio Cossu is the coordinator of the FP7 large-scale collaborative project "OptiStem", the European Consortium for Optimization of Stem Cell Therapy for Degenerative Epithelial and Muscle Diseases, and represents the expertise of the entire consortium in this coordination action. He will lead integration of OptiStem consortium into the EUROSTEMCELL network; obtain latest scientific updates from project partners (20 different entities from 6 different European countries, described in section 2.3, resources) and format prior to sending to Partner 1; and coordinate provision of specialist information on epithelia and muscle.

Expertise and competence
The Cossu research group has a long lasting experience in the field of muscle development, and more specifically, on the signals and mechanisms that regulate the formation of skeletal muscle during embryonic development and, after birth, during regeneration as a result of an injury or disease. The group has also experience in adult stem cell biology and has recently identified a vessel-associated stem cell, termed mesoangioblast. Mesoangioblasts have recently been shown to be effective in restoring function in murine and canine models of muscular dystrophy. Based on this evidence a first clinical trial is planned. As one of Italy's leading stem cell scientists Cossu regularly participates in outreach activities.

Resources
The Stem Cell Research Institute was created in 2000 at the H San Raffaele, to focus research on stem cell biology and its possible application in cell therapy protocols. The Institute is currently comprised of several groups, which study the origin, phenotype and differentiation potential of neural and mesodermal stem cells, and the development and of different models of degenerative diseases of the nervous system (Parkinson, Alzheimer and Huntington) and muscle (muscular dystrophies).

Experience in transnational consortia
Cossu was formerly Coordinator of IP "Gene therapy for skeletal muscle" and "Stem cells of the mesoderm" in FP4 and 5, respectively. Workpackage Coordinator in FP6 Network of Excellence 'Cells into Organs' (ends 2008). He was also a member of the FP6 IP EuroStemCell. Chair of Panel LS6 of the European Research Council. Member of the Advisory Board of TIGEM and Institut Cochin.

Optistem Abstract – see annex I

PARTNER 3 - University of Milan, Centre for Stem Cell Research, Prof. Elena Cattaneo

Principal personnel
Elena Cattaneo, PhD – Director Centre for Stem Cell Research and Coordinator of FP7 NEuroStemCell

Key supporting staff:
Gianni Munizza - Communications Manager Centre for Stem Cell Research
Elisabetta Kluzer - Project Manager

Role in the project
Elena Cattaneo is the coordinator of the FP7 large-scale collaborative project "NEuroStemCell", the European Consortium for Stem Cell Therapy for Neurodegenerative Diseases, and represents the expertise of the entire consortium in this coordination action. She will lead integration of NEuroStemCell consortium into the EUROSTEMCELL network; obtain latest scientific updates from project partners (13 different entities from 6 different European countries, described in section 2.3, resources) and format prior to sending to Partner 1; coordinate provision of specialist information on neurobiology; lead development of public engagement activities in Italy.

Expertise and competence
Since over a decade the Cattaneo's laboratory is engaged in research activities dealing with the molecular mechanisms underlying Huntington's Disease and the biology of neural stem cells. Her laboratory was the first to identify the neuroprotective function of huntingtin. In the stem cell field her laboratory has contributed to the characterization of the properties of the NS cells discovered in Smith's laboratory. In the context of FP6 IP EuroStemCell she has acted as Networking Director in charge of the organization of the annual meeting and open conferences, including the first of a successful series of Advances in Stem Cell Research Conferences that started in Milan in 2005 and that are now held every year in different European cities. She is Director of UniStem, the Centre for Stem Cell Research of the University of Milano, which is active in outreach and training. UniStem organizes a number of different activities on stem cells directed to the public and the scientific community. Among them is a "Workshop" series run twice a year (400-500 participants), the UniStem Lectures (twice a year, mean participants: 250), the Researcher Night (once a year, mean participation 600), the High School Day (once a year, 700 participants), and an event in the Milano Science Museum (attendees approx: 600). She occasionally writes about stem cells for main Italian newspapers. Gianni Munizza has substantial expertise on communication, arts and culture project management. He was managing director at Teatro I, and project manager at Ambrosini & Associati Group (Milan, Italy).

Resources
Research at the Centre for Stem Cell Research is focussed on the understanding of the factors that influence division and differentiation of neural stem cells, and on the mechanism that lead to degenerative diseases, such as Huntington's Disease. The ultimate goal is to identify cells, molecules and pathways that are suitable for therapeutic intervention and novel reagents for drug screening.

Experience in transnational consortia
Elena Cattaneo was a Principal Investigator in the FP6 IP EuroStemCell, and is a PI in the FP6 IP ESTOOLS and in the FP7 IP EuroSyStem. She is also coordinating a Team of international researchers (USA, Canada and Europe) dedicated to the understanding of normal huntingtin function (H.D.S.A., NY, USA).

NEuroStemCell Abstract – see annex I

PARTNER 4 – JDRF Center for Beta Cell Therapy in Diabetes

Principal personnel
Daniel Pipeleers, MD, PhD - Director, JDRF Center for Beta Cell Therapy in Diabetes and Coordinator, FP6 IP BetaCellTherapy

Key supporting staff
Christel Hendrieckx, PhD – Head of the Coordination Unit, JDRF Center for Beta Cell Therapy in Diabetes
Jan Van Autreve, PhD – Communications & Project Manager, JDRF Center for Beta Cell Therapy in Diabetes

Role in the project
Daniel Pipeleers is the coordinator of the FP6 integrated project 'BetaCellTherapy", the European Consortium for Beta Cell Programming for Treatment of Diabetes which is co-funded by the Juvenile Diabetes Research Foundation (JDRF). He represents the expertise of the entire consortium in this coordination action. Together with Christel Hendrieckx and Jan van Autreve, Daniel Pipeleers will lead integration of BetaCellTherapy consortium into the EUROSTEMCELL network; obtain latest scientific updates from project partners (22 different entities from 9 different European countries described in section 2.3, resources) and format prior to sending to Partner 1; coordinate provision of specialist advice on biology and pathology of diabetes and progress of relevant clinical trials.

Expertise and competence
Daniel Pipeleers and his team have developed methods for purifying insulin-producing beta cells which allow investigation of the biology and pathology of beta cells. These studies have established a basis for a collaborative network of European clinical and research centers aiming at protection and replacement of beta cells in diabetes. This international network has operated, since 2002, as **JDRF Center for Beta Cell Therapy in Diabetes**. The **Center** is an international consortium of clinical and research departments, with associated facilities and reference centers and interactions with bioindustry and society. It is organized and coordinated by a Central Unit that is based on the medical campus of Brussels Free University – VUB. This Central Unit provides training, interacts with the scientific and medical community, informs patients and society on progress and standpoints in the field of its activities and objectives. It has organized open Symposia and Public meetings which were attended by representatives of patients organisations, of health authorities, lay people and press. It has also initiated other ways of communicating with the public through posters, leaflets, film, press releases and science theatre.

Resources
The objective of the **JDRF Center for Beta Cell Therapy in Diabetes** is to develop and implement strategies for preserving and restoring insulin producing beta cells. The **Center and** its partners have achieved an efficient and rapid translation of laboratory findings into clinical and bio-industrial applications. Clinical trials are ongoing both for prevention and treatment of type 1 diabetes. Beta cell grafts are prepared for long-term survival and function in patients with type 1 diabetes. Quality control and safety criteria are defined as guide to (pre)clinical testing. New questions arising from these clinical studies are taken back to the Center's R&D platform.

Experience in transnational consortia
Daniel Pipeleers has coordinated 4 European sponsored projects and 2 JDRF-funded (Juvenile Diabetes Research Foundation) programs on protection and restoration of the beta cells. Within the FP6 program on "Beta Cell Programming for Treatment of Diabetes" we established a "bridge" with EuroStemCell. This bridge received support from JDRF to organize meetings and exchanges, and to undertake pilot collaborative experiments. This has led to new partnerships bringing together experts from the diabetes field and from stem cell research. Daniel Pipeleers was also a member of the Scientific Advisory Board for the FP6 EuroStemCell consortium.

BetaCellTherapy Abstract – See annex I

PARTNER 5 - University of Cambridge

Principal personnel
Austin Smith, PhD, FRS - Director, Wellcome Trust Centre for Stem Cell Research and coordinator, EuroSyStem

Key supporting staff
Jenny Walsham – Project Manager, EuroSyStem,
Jo Butler – Communications and Administrative assistant

Role in the project
This Centre is the lead partner for the FP7 large-scale collaborative project 'EuroSyStem", the European Federation for Systematic Stem Cell Biology (www.eurosystemproject.eu). Austin Smith is coordinator of EuroSyStem and represents the expertise of the entire consortium in this coordination action. Smith will lead integration of EuroSyStem consortium into the EUROSTEMCELL network; obtain latest scientific updates from project partners (18 different entities from 8 different European countries, described in section 2.3, resources) and format prior to sending to Partner 1; coordinate provision of specialist information on fundamental stem cell biology.

Expertise and competence
The Smith laboratory pioneered molecular studies in embryonic stem cell biology, discovering the roles of extrinsic signals LIF and BMP and of intrinsic transcriptional organizers Oct4 and Nanog. The laboratory has defined a central role for Erk signaling in ES cell commitment, demonstrated fluctuations in key regulators in ES cells, and established defined conditions for rodent ES cell culture based on chemical inhibition of MEK and GSK3 kinases. The group also developed defined conditions for neural commitment and established adherent neural stem (NS) cell cultures. Smith formulated the concept of a ground state of pluripotency and exemplified this in the generation of iPS cells and rat ES cells. The Group has specific expertise in ES cell and iPS cell derivation, propagation, and directed differentiation in both mouse and human.

Through his role in the FP6 European Consortium for Stem Cell Research (EuroStemCell) Smith developed extensive experience in organising scientific conferences, training courses and outreach events. Smith has co-organised the annual Advances in Stem Cell Research Conferences in Milan 2005, Lausanne 2006, Stockholm 2007 and planned for Cambridge 2009. He and Blackburn initiated and planned the successful European Summer School on Stem Cells and Regenerative Medicine which will run for the fifth time in 2009. Smith speaks frequently at various events for ethicists, regulators, politicians, media and the lay public. He has contributed to expert reports on stem cell research for EMBO, the Royal Society of London, and the Academy of Medical Sciences of the United Kingdom.

Resources
The Wellcome Trust Centre for Stem Cell Research www.cscr.cam.ac.uk exists to provide outstanding scientists with the opportunity to undertake ground-breaking research into the fundamental biological properties and the biomedical potential of stem cells. With core support from the Wellcome Trust and the Medical Research Council, the Centre is an exceptional environment for fundamental stem cell research. The Director of the Centre is Austin Smith, MRC Research Professor of Stem Cell Biology. The Deputy Director is Fiona Watt, Herchel Professor of Molecular Genetics. The Centre aims to pioneer the next generation of stem cell research.

Experience in transnational consortia
Austin Smith is coordinator of the FP7 large-scale collaborative project on fundamental stem cell biology, EuroSyStem. He previously coordinated the FP6 integrated project EuroStemCell. Smith is deputy coordinator of the ESTOOLS FP6 integrated project and is a PI in the FP6 STREPS StemStroke and NeuroScreen

EuroSystem Abstract – see annex I

PARTNER 6 - University of Sheffield,

Principal personnel
Peter Andrews, PhD – Director, Centre for Stem Cell Biology and Coordinator, ESTOOLS

Key supporting staff
Andrew Smith, – Project Manager, ESTOOLS
Sebastien Duprat - Training & Outreach Manager, ESTOOLS

Role in the project
This Centre is the lead partner for the FP6 integrated project 'ESTOOLS", the European Consortium for Functional Genomics of Embryonic Stem Cell Differentiation, which is coordinated by Peter Andrews, and represents the expertise of the entire consortium in this coordination action. Andrews, together with Smith and Duprat, will lead integration of ESTOOLS consortium into the EUROSTEMCELL network; obtain latest scientific updates from project partners (21 different entities described in section 2.3, resources) and format prior to sending to Partner 1; coordinate provision of specialist information on human embryonic stem cells.

Expertise and competence
Andrews has worked for the past 30 years on the biology of human embryonal carcinoma (EC) cells, the malignant counterparts of human ES cells, with which he has also worked for the past 9 years. Much of his early work provided data about the characteristics of human EC cells which has translated to human ES cells. He is co-director of the Centre for Stem Cell Biology in Sheffield. He is also co-ordinator of the International Stem Cell Initiative, focused on developing common standards for identifying and characterising human ES cells. His current work focuses especially on the biology of human ES cells and the genetic changes that occur in these cells and influence the dynamics of self-renewal and differentiation. Smith is project manager for the FP6 IP ESTOOLS. Duprat is Training and Outreach Manager for ESTOOLS and has substantial experience of communicating stem cell biology to a wide range of audiences, and of training scientists in science communications. In particular he has developed the traveling photo-exhibition 'Smile of a stem cell' and the pan-European educative project 'TELESCOPE' (Trans-European Learning on Embryonic Stem Cells and debate Opinions on Policies in Europe) – see www.estools.eu.

Resources
The Centre for Stem Cell Biology (CSCB) focuses on the development of human ES cell technologies and resources that are central to the long-term goal of development ethical applications of stem cells in regenerative medicine. The Centre has extensive experience in the culture characterisation and biology of human embryonic stem (ES) cells and their malignant counterpart embryonal carcinoma (EC) cells. It has access to a range of immunological and molecular markers and long-standing experience in their application to the characterisation and identification of stem cell lines. Andrews and his team have considerable expertise in proteomics and other molecular techniques as well as methodologies for manipulating gene expression in these cells, and are recognised for the developmental and application of RNA interference techniques. The Centre is currently expanding its capacity through the development of new GMP accredited laboratories for the production of human ES cells.

Experience in transnational consortia
Peter Andrews is coordinator of the ESTOOLS FP6 integrated project and of the International Stem Cell Initiative.

***ESTOOLS* Abstract –see annex I**

PARTNER 7 - Life and Brain GmbH, Bonn, Germany, Prof. Oliver Brüstle

Principal personnel
Prof. Oliver Brüstle – Director, Life and Brain GmbH
Michael Peitz, PhD , Manal Bosnali, Dipl.-Biol., Julia Ladewig, Dipl.-Biol.

Key supporting staff
Alexandra Rabe

Role in the project
Oliver Brüstle coordinates the workpackage for induced pluripotent stem cells in the FP6 Integrated Project 'ESTOOLS'. Brüstle will participate in EUROSTEMCELL work packages 1-4. In particular will coordinate provision of specialist information on induced pluripotent stem cells for WP1 and 2 and will lead development of public engagement activities in Germany for WP3.

Expertise and competence
Brüstle's team has extensive experience in public outreach activities. Brüstle has been a key person in the German stem cell debate. He has been involved in numerous public events as well as consulting activities for federal and state governments, the German Research Council (DFG), churches as well as lobbyists and opponents of stem cell research. These activities have significantly contributed to shaping the German stem cell legislation. In addition to this political engagement, the team of Brüstle has been conducting numerous outreach activities such as local and EU-wide school activities (e.g. the TELESCOPE programme within ESTOOLS), museum exhibits (e.g. for the Deutsche Museum in Munich or the activity "Wissenschaftszug 2009, Expedition Zukunft"), lectures and practical courses for school classes and other interested lay groups as well as organization of conferences with public outreach contents (e.g. ESTOOLS Meeting in Berlin on April 19 – 20, 2007 "Ethical Aspects of Stem Cell Research in Europe). Brüstle also serves as a member of the Board and Head of the Steering Committee of the Stem Cell Network North Rhine Westphalia. This network is dedicated to promoting both scientific support of young scientists as well discussions with legal, ethical and religious stakeholders and the organization of conferences with strong public outreach activities.

Resources
LIFE & BRAIN GmbH was founded in 2002 and is a common platform for the cross-fertilization of science and ideas in the field of neuroscience of the University of Bonn. It consolidates academic research from four neuroscience related institutes, Cellomics, Genomics, Transgenics, and Neurocognition, with business professionals focused on commercialization. One main focus of LIFE & BRAIN is the application of stem cell technology for the production of ready-to-use cell products for screening and cell-based therapies. LIFE & BRAIN's initial financial resources were based on federal ministry grants. Its current financing originates from local ministry funding and partnership with the pharmaceutical and medical industry. LIFE & BRAIN GmbH closely interacts with the Institute of Reconstructive Neurobiology

Experience in transnational consortia
Oliver Brüstle was a principal investigator and work package leader in the FP6 IP EuroStemCell; he leads the work package on induced pluripotent stem cells in the FP6 IP ESTOOLS and is also a PI in the FP7 IP NEuroStemCell. Life & Brain is also a partner in the FP6 STREP NEUROscreen.

Most relevant publications, patents or products
Testa, G., Borghese, L., Steinbeck, J.A., Brüstle, O. (2007). Breakdown of the potentiality principle and its impact on global stem cell research. Cell Stem Cell 1:153-156

Nolden, L., Edenhofer, F., Haupt, S., Wunderlich, T.F., Siemen, H., Brüstle, O. (2006) Site-specific recombination in human embryonic stem cells induced by cell-permeant Cre recombinase. Nature Methods 3:461-467

Terstegge, S., Brüstle, O. (2004) Skalierbarer Prozess zur Kultivierung undifferenzierter Stammzellen in Suspension. DE 102 004 043 256.2; PCT-EP-2005-009611

Brüstle, O. (1999) Neural precursor cells, method for the production and use thereof in neural defect therapy DE 197 56 864; WO9932606A2.

PARTNER 8 - European Clinical Research Infrastructures Network, Paris, France,

Principal personnel
Prof. Jacques Demotes, Director, ECRIN

Key supporting staff
Christine Kubiak – Project Manager, Coordination of clinical activities
Dominique Donnet-Kamel – coordination of patient association liaison and communication

Role in the project
Obtain updated information on ongoing clinical trials using stem cells in Europe.
Obtain information from patients associations of what information they need for the patients.
Distribute Stem cell research flyers in clinical centres and hospitals.

Expertise and competence

Jacques Demotes was previously director of the Bordeaux CRC (Centre d'Investigation Clinique, steered by INSERM and University hopsital) which is a multi-thematic trial unit with its principal areas of clinical investigation being functional replacement and biomaterials, novel therapies in neurosciences, and cardiology and medical imagery, aimed towards the development in biomedical research and health for the development of biotechnologies. He is now chairman of ECRIN, which collectively has performed over 1500 clinical studies. He is also the project leader on clinical research at the French Ministry for research, responsible for creating pre-clinical to clinical translation networks.

Resources
Access to 350 accredited centres dispersed throughout all of Europe that routinely perform clinical trials in biotherapy. Database and access to further information on all cell therapy performed (past and present) in Europe.

Experience in transnational consortia
Jacques Demotes is the chairman of ECRIN (European Clinical Research Infrastructures Network, www.ecrin.org), designed to **bridge the fragmentation of clinical research in Europe** through the interconnection of national networks of clinical research centres and clinical trial units. ECRIN participants are currently **Austria, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Spain, Sweden, Switzerland,** and the **United Kingdom**, with the participation of the European Organisation for Research and Treatment of Cancer (EORTC), and the contribution of the European Forum for Good Clinical Practice (EFGCP) and of the Telematikplattform as associated partners. ECRIN plans extension to national infrastructures networks in other member states, and stimulates the set-up of new national networks able to provide support to clinical research in any medical field for further connection to ECRIN. Therefore this integrated clinical research infrastructure, unique in the EU, will provide support to any type of clinical research, and in any medical field.

He has chaired two previous initiatives in clinical networking: (**ECRIN-RKP**) FP6-funded step helped identify **bottlenecks to multinational cooperation**, highlighting the poor capacity of public institutions to act as a sponsor in multinational studies; (**ECRIN-TWG**) FP6-funded step, transnational working groups are in charge of defining **procedures and guidelines for multinational studies in the EU**.

ECRIN has developed in three phases: **preparation, construction, and operation**. The preparatory phase of the infrastructure for clinical trials and biotherapy has transformed a network, sharing tools and practice, into an operating EU institution with financial sustainability, providing high quality services to multinational clinical research, and prepare the construction of data centres and of GMP facilities. The construction step has generated a network of data centres and GMP manufacturing facilities for biotherapy.

PARTNER 9 - Centre for Genomic Regulation, Barcelona

Principal personnel
Thomas Graf, PhD – Director, Centre for Genomic Regulation (CGR).

Key supporting staff
Gloria Lligadas - Head of Communication & Public Relations, CGR.

Role in the project

Thomas Graf will participate in all EUROSTEMCELL activities; lead development of accessible interactive model of transcription factor networks in blood; lead development of public engagement activities in Spain. CRG will be responsible for translation into Spanish of all dissemination outputs. As a member of the Directors Board of the International Society for Stem Cell Research (ISSCR) he will form a liaison to the International stem cell community.

Expertise and competence
Graf's initial work was on avian retroviruses that transmit oncogenes. He co-discovered a number of important oncogenes and showed that in several acute leukemia models the cooperation of two or more oncogenes is necessary to cause full - blown leukemia. Using a myeloid erythroid competent cell line that his group developed he showed that transcription factor antagonisms play a critical role in lineage decisions. He also pioneered the induced transdifferentiation of fully committed cell types into alternative and predictable fates, using forced transcription factor expression. This approach has given important new insights about what happens when bipotent progenitors decide what to become, and also has potential therapeutical applications. Graf is a member of two European networks on epigenetics, one from the EU (HEROIC), one from Spain (Consolider). He has also organized numerous conferences, such the original EMBL series on 'Oncogenes and Growth Control' and more recently conferences on stem cells, such as the one co-organized with R Jaenisch in Titisee this fall. He has helped to disseminate knowledge about hematopoietic lineages by designing a poster (together with Andreas Trumpp) for Nature Immunology reviews (in 2007). He has recently spoken for a broader public in a blog from Nature about findings in his field, and this fall was featured as the expert of the month by Nature Report Stem Cells, in which he answered to a number of questions of more general interest. As a member of the Board of ISSCR he has also had several encounters with the press.

Resources
The Centre for Genomic Regulation (CRG) is a basic biomedical research centre, created by initiative of the Department of Universities, Research and Information Society and the Department of Health of the Catalan Government, with the participation of the Pompeu Fabra University, and the Spanish Ministry of Education and Science. The objective of the CRG is to promote an excellent basic research in biomedicine and, particularly, in the genomic and proteomic fields. The CRG is located at the Barcelona Biomedical Research Park (PRBB) building, where you can also find the Experimental and Health Sciences Dept. (CEXS) of the UPF, the Municipal Institute of Medical Research (IMIM), and the Centre of Regenerative Medicine of Barcelona (CMRB), among others. The CRG is legally constituted as a non-profit foundation and has the participation from the Catalan Government through the Innovation, Universities and Enterprise Department (DIUE) and the Health Department (DS), as well as from the Pompeu Fabra University (UPF), and the Spanish Ministry of Science and Innovation (MICINN).

Experience in transnational consortia
As mentioned, Thomas Graf is part of the HEROIC consortium.

Most relevant <u>recent</u> publications, patents or products
Laiosa, C. Stadtfeld, M. and and Graf, T (2006) Determinants of Lymphoid and Myeloid Cell Fate Decisions. *Annual Rev. Immunol*. 24, 705-738

Ye M, and Graf, T. Early decisions in lymphoid development (2007) Current Opinion in Immunology, 19, 123-128

Graf, T. Blood lines redrawn. Nature, 10;452(7188):702-3 (2008)

Graf, T. and Busslinger, M. B. Young again. Immunity 28, 606-608 (2008)

Graf T, Stadtfeld M. Heterogeneity of embryonic and adult stem cells. Cell Stem Cell. 2008 Nov 6;3(5):480-3.

PARTNER 10 - University of Lund, Sweden

Principal personnel
Göran Hermerén – Professor Emeritus of Medical Ethics, Lund University, Sweden

Key supporting staff
Kristina Hug

Role in the project
Göran Hermerén will contribute extensively to WP 1 and 2 by ensuring that ethical concerns are adequately addressed in all EUROSTEMCELL outputs, and by moderating the ethics content of website. He will also provide advice on development of public engagement and outreach activities for WP3 where appropriate. His role is to organize and direct workshops on ethical aspects of stem cell research and to develop models for teaching about ethical aspects of medical research in general and stem cell research in particular. The purpose of these models is not to provide ready and clear cut answers to questions asked but to make the participants of the workshops reflect on the answers they are prepared to give – as well as about the problems and assumptions on which the problems are based and the way the problems are framed.

Expertise and competence
Hermerén developed the course on research ethics taken by all doctoral candicates in the Faculty of Medicine several years ago, and taught the whole course alone. The teaching has now been taken over by Kristina Hug and Tore Nilstun. Hermerén was invited by the Nuffield Council on Bioethics to give the public lecture 2008 in the premises of Royal Society, London. Hermerén has published internationally on different aspects of research ethics over the years, and in later years particularly on ethical aspects of stem cell research and nanomedicine (selected publications below). He has served on many national and international ethics committees over the years. He is the president of the European group on Ethics in Science and New Technologies, Brussels (giving advice to the European Commission), the Chair of the Advisory Board of the German Reference Center for Ethics in the Life Sciences (DRZE), Bonn, member of the National Council on Medical Ethics in Sweden, Stockholm, since its start, and Chair of the Ethics Committee of the Swedish Research Council, Stockholm.

Resources
The current main areas of research at the Department of Medical Ethics, Biomedical Centre BMC, Lund University, Sweden, include: values and the ranking order of values as basis for decision making in ethics; risk assessment and knowledge gaps in decisions, also in health care and research; empirical aspects of the attitudes and views of various stakeholder groups to the options available in areas like palliative care, end of life care, living wills, paediatric care, cardiology etc. Clarification of the basic conceptual framework and the assumptions on which it is based is an important part of the research in all these areas.

Experience in transnational consortia
Göran Hermerén led the ethics work package of the FP6 IP EuroStemCell and currently leads the ethics WP in the FP6 IP ESTOOLS. Earlier he was the co-ordinator of the EU-funded project Euro-Priorities, and has been involved in many other nationally or EU-funded research projects.

Most relevant publications, patents or products
European values, ethics and law. Present policies and future challenges. In: Jahrbuch für Wissenschaft und Ethik. De Gruyter, Berlin & New York. Vol. 11, 2006: pp. 5-40.

Nilstun T, Hermerén G. Human tissue samples and ethics. In: Medicine, Health Care and Philosophy, 2006; 9: pp. 81-86

Challenges in the Evaluation of Nanoscale Research: Ethical Aspects. In: NanoEthics (2007) 1: pp. 223-237.

European values – and others. The European Review, vol. 16, 2008, 3:373-385.

PARTNER 11 – The Regenerative Medicine Institute (REMEDI), National University of Ireland, Galway, Ireland.

Principal personnel
Professor Frank Barry, Scientific Director, REMEDI, Coordinator of PurStem, FP7 research and demonstration project.

Key supporting staff
Derick Mitchell, PhD - Communications Officer, REMEDI
Breda Kyne, Outreach Officer, REMEDI

Role in the project
Barry is the Scientific Director of REMEDI and will provide expertise in mesenchymal stem cell (MSC) biology. Mitchell is a professional science communicator with expertise in website design and maintenance and will contribute to WPs 1, 2 and 3. He also leads the scientific public engagement activities for NUI Galway.

Expertise and competence
The communications and outreach team at REMEDI has substantial expertise in the development, management and evaluation of public engagement and outreach activities. Activities have targeted school-going populations at primary and post-primary level as well as the general public, policymakers and journalists. As a multi-disciplinary institute, REMEDI promotes communication between scientists, clinicians and patients. Barry is a leader in bone marrow stem cell biology and culture with a focus on orthopaedic and cardiovascular applications. He has 13 years experience in the field with seminal publications and directed work which led in the first clinical trial worldwide in the area of stem cells in meniscal repair. Mitchell has experience in producing educational resources at post-primary and University level, website management and design and is also an experienced cell and molecular biologist. Kyne is an experienced outreach officer and has acquired Welcome Trust funding for her designed activities.

Experience in transnational consortia
Barry is the coordinator of the FP7 research and demonstration project, PurStem (www.purstem.eu). Barry is the lead coordinator of the consortium which includes The Laboratory of Regenerative Medicine directed by Prof. Ranieri Cancedda, located in Genova, Italy; The Mesenchymal Stem Cell group - part of the Academic Unit of the Musculoskeletal Diseases (AUMD) at the University of Leeds, whose director Prof. Paul Emery, is one of the world's leading academic rheumatologists; the "Mesenchymal Stem Cells" group at Charles University, Prague (CUNI) and Ovagen Limited (OIL) company, Ireland. PurStem will progress the state of the art in the production of MSCs in large quantities.

Resources
The Regenerative Medicine Institute (REMEDI) at the National University of Ireland, Galway, was established as a Centre for Science, Engineering and Technology in 2004. It is recognized as the Irish national centre for stem cell and gene therapy research and works to translate its research in the orthopaedic, cardiovascular and neural areas to clinical applications. REMEDI collaborates with clinicians in University College Hospital, Galway (UCHG) whose Clinical Research Facility will enable translation of research outcome. It has established national and international collaborations with leading academic institutions and industrial partners, to provide a unique opportunity to play a key role in the development of novel regenerative therapeutics.

Most relevant publications, patents or products

- www.remedi.ie – an interactive website with several participatory resources for scientists and the public
- www.readysetbio.ie – a children's educational website aimed at primary level, which acts as a resource for REMEDI outreach activities
- Debating Science Issues (DSI) – coordinator of Wellcome Trust funded All-island of Ireland schools debating competition, with heavy emphasis on ethics of stem cell technology.
- Essay Competition – All island of Ireland annual school's essay competition.

PARTNER 12 - Dando and Colucci Ltd, Bristol, UK

Principal personnel
Jonathan Dando, PhD – Managing Director, Dando and Colucci
Isabelle Weiss, PhD – Director, Dando and Colucci

Role in the project
Consortium management

Liaison with funding bodies and other European initiatives in stem cell research

Expertise and competence
Dando & Colucci specialises in facilitating the development, financing and implementation of life science based innovation 'clusters' (international consortia and/or science parks) by providing tailored insight and management, offering tactical and strategic management to permit correct financial management, leveraging of resources, positioning on the life science value chain. This stretches from fundamental research through to partnering at the time of real value creation. As such their expertise includes: Consortium development and partner recruitment; Fund raising and identification of potential financial backers; Elaboration and negotiation of detailed scientific and development plan; Executive and project management; Consortium operational development and organisation; Resource and technical evaluation; Business development and market analysis; Financial co-ordination and reporting, pre-clinical to clinical planning and implementation, and Intellectual property management co-ordination. At present Dando and Colucci consults to 4 companies and 3 European research centres in fund raising and international development, and the European Clinical Research Infrastructure Network. It is also actively researching how to optimise international project management and portfolio development and generate new European models which will permit a better integration and innovation.

Resources
Dr Jonathan Dando (English) is the co-founder and Managing Director of Dando and Colucci LLC. Previously he was the Director of the international projects department for INSERM Transfert managing over 500 million€ in costs on international co-operation projects. He has worked for Sandoz (Vienna, Austria), Systemix (Palo Alto, U.S.A.), the Telethon Institute for Gene Therapy (Milan, Italy) and INSERM (Villejuif, France). He has been a member of the executive committee for three large European partnerships and both an advisor and a member of the board of directors for the Marie Curie Fellowship Association. *Specific expertise: Financial and Legal planning/administration and business development*

Dr Francesco Colucci (Italian) is presently a Principal Investigator at the Babraham Institute, Cambridge, UK. His lab focuses on Natural Killer cells in health and disease. He obtained his General Medicine and Medical Board Certification in Italy and a PhD in Immunology in Sweden, working on Type 1 Diabetes. He completed his training focussing on the development and activation of Natural Killer cells first at the Necker Hospital-Paris, France and then as a Staff scientist at the Pasteur Institute-Paris, France, while also being a Director of Research at the University of Paris. He is the author of over 40 scientific publications including articles in Nature Immunology, Nature Reviews Immunology, Immunity, PNAS, Journal of Experimental Medicine and Blood. *Specific expertise: Reporting and scientific strategy analysis*

Dr Isabelle Weiss (French-Swiss) has extensive experience in the management of European projects. She is currently managing two FP6 projects, NeuroNE a 4-year European Network of Excellence and Trans-Vac a 2-year Marie Curie Transfer of Knowledge network. Isabelle Weiss has scientific expertise in Neuroscience. She has obtained her PhD at the ETH Zurich, Switzerland and has carried out a 3-year post doctoral project integrated in an international collaborative network involving clinical units and research laboratories (ETH Zurich, Switzerland). *Specific expertise: International project management, capacity building and training*

Mr Jeffrey Dando (English) has over 25 years professional experience in Business Analysis and IT Management, aimed towards improving business performance. He has been a project Quality Manager designing and implementing new Quality systems to the ISO 2000 series of European Quality Standards. Since 1999 he has been a Certified Quality Systems Auditor authorised to audit Companies and their associated internal departments to the ISO 2000 Standard specifically auditing for Due-Diligence conformity. *Specific expertise: Logistical management of the company and International quality control*

2.3 Consortium as a whole

As indicated above we have assembled a unique consortium which, by bringing together the major large-scale stem cell projects currently funded by the sixth and seventh frameworks and four additional centres, effectively federates European stem cell research. Concomitantly, the consortium includes experts in communicating life science, and specifically stem cell research to all stakeholders. The partners perfectly match the objectives of EUROSTEMCELL, and the aims of the project topic. Beneath we indicate by work package how all of these partners will work together to collectively constitute a consortium capable of achieving our objectives.

WP1 – Information management

A**) Access to the initial source of scientific information**: Updates in fundamental and applied stem cell research will be provided by all project partners and all groups present in the stem cell integrating projects and large-scale collaborative projects supported by the European Commission whose coordinators are partners in this project. Coordinators are highlighted in bold (partners 1, 2, 3, 4, 5 and 6).

Academic groups involved in Framework Programme funded research on Stem Cells	Stem Cell Project Acronym					
	Betacell therapy	ESTOOLS	EuroSystem	NEuroStemCell	Optistem	Euro Cancer Stem Cell
Amati, Bruno: Division Director, European Institute of Oncology, Milan.			✓			
Anastassiadis, Konstantinos: BioInnovationsZentrum, University of Technology, Dresden.		✓				
Andrews, Peter: Head of Centre for Stem Cell Biology, University of Sheffield		✓				
Arenas, Ernest: Professor, Karolinska Institute				✓		
Bachoud-Lévi, Anne-Catherine, U841, Inserm				✓		
Balling, Rudi: European Advanced. Translational Research Infrastructure in Medicine					✓	
Barde, Yves: University of Basel		✓				
Barker, Roger: Brain Repair Centre, University of Cambridge				✓		
Barrandon, Yann: Head of Stem Cell Dynamics Laboratory, EPFL			✓		✓	
Benvenisty, Nissim: The Hebrew University of Jerusalem		✓				
Björklund, Anders: Head of Neurobiology, University of Lund				✓		
Blackburn, Clare: Reader, Centre for Regenerative Medicine, and acting Head, Institute for Stem Cell Research, UEDIN			✓		✓	
Bonnet, Dominique: Cancer Research UK						✓
Bouwens, Luc: Diabetes Research Center, Vrije Universiteit Brussel	✓					
Brüstle, Oliver: Head of the Institute of Reconstructive Neurobiology, University of Bonn		✓		✓		
Buckingham, Margaret: Head of Research Unit Molecular Genetics of Development, Institut Pasteur			✓		✓	
Cattaneo, Elena: Head of Laboratory, Director of Centre for Stem Cell Research, University of Milan.		✓	✓	✓		
Chambers, Ian: Senior Lecturer, Institute for Stem Cell Research, UEDIN			✓			
Clementi, Emilio: Pharmacology Unit-E. Medea Scientific Institute, Italy					✓	
Clevers, Hans: Director Hubrecht Laboratory, Netherlands Institute for Developmental Biology			✓			
Consalez Giacomo: Head of research Unit, San Raffaele Hospital			✓			
Cossu, Giulio: Institute for Stem Cell Research, DIBIT					✓	
De Haan, Gerald: Professor Molecular Stem Cell Biology, University			✓			

Hospital Groningen, the Netherlands						
De Luca, Michele: University of Modena, Italy					✓	
Dejana, Elisabetta: IFOM, Milan, Italy					✓	
Demotes, Jacques: European Clinical Research Infrastructure Network					✓	
Dunnett, Steven: Brain Repair Group, University of Cardiff				✓		
Dvorak, Petr: Institute of Experimental Medicine, Academy of Sciences of the Czech Republic		✓				
Efrat, Shimon : Dep. of Hum. Genetics and Mol. Medicine, Tel Aviv University,	✓					
Enver, Tariq: Director, Haematopoietic Stem Cell Programme, Uni Oxford		✓	✓			✓
Ericson, Johan: Professor, Karolinska Institute				✓		
Esteller, Manel: Director of the Cancer Epigenetics lab, Spanish National Cancer Centre		✓				
Ferrer, Jorge: Inst. d'Investigacions Biomèdiques, University of Barcelona	✓					
Gradwohl, Gerard: INSERM U381, France	✓					
Grapin-Botton, Anne: Swiss Inst. for Experim. Cancer Research (ISREC), EPFL	✓					
Hantraye, Philippe: Head of the Molecular Imaging Research Center CEA, France				✓		
Heimberg, Harry: Diabetes Research Center, Vrije Universiteit Brussel	✓					
Hendrieckx, Christel: JDRF Center for Beta Cell Therapy, Belgium	✓					
Hermeren, Goran: Professor of Medical Ethics, University of Lund		✓		✓		
Herrera, Pedro: University of Geneva Medical School	✓					
Hovatta, Outi: Karolinska Intitutet		✓				
Jacobsen, Sten Eirik: Professor, Head Hematopoietic Stem Cell Laboratory, Lund University			✓			✓
Jonkers, Jos: Group leader in the Division of Molecular Biology, Nederlands Kanker Instituut			✓			
Knoblich, Jurgen: Deputy Director, Institute of Molecular Biotechnology of the Austrian Academy of Sciences			✓			
Lahesmaa, Riita: University of Turku		✓				
Lemaigre, Frédéric: Hormone and Metabolic Research Unit, Université Catholique de Louvain	✓					
Lendahl, Urban: Professor of Genetics, Karolinska Institute,			✓			
Lilley, Kathryn: Director, Centre for Proteomics, Cambridge Systems Biology Institute			✓			
Li, Meng: Group leader, Clinical Sciences Centre, Imperial College London		✓		✓		
Lindvall, Olle: Head of Neurology, University of Lund				✓		
Loeffler, Markus: Director, Institute for Medical Informatics, Statistics and Epidemiology; Scientific Director, Interdisciplinary Centre for Bioinformatics (IZBI), University of Leipzig			✓			
Mandrup-Poulsen, Thomas: Steno Diabetes Center, Denmark	✓					
Munoz, Pura: Universitat Pompeu Fabre, Spain					✓	
Nerlov, Claus: Centre for Regenerative Medicine, and acting Head, Institute for Stem Cell Research, UEDIN (*previously EMBL*)						✓
Nielsen, Finn: Department of Clinical Biochemistry, Copenhagen University Hospital,	✓					
OtonKoski, Timo: University of Helsinki		✓				
Parmar, Malin: Assistant professor, Neurobiology, University of Lund				✓		
Patient, Roger : Medical Research Council, UK						✓
Peers, Bernard : Université de Liège	✓					
Perlmann, Thomas: Professor, Karolinska Institute				✓		
Perrier, Anselme: I-STEM, Inserm				✓		

Peschanski, Marc: I-STEM, Inserm				✓		
Petersen, Ole W. : University of Copenhagen						✓
Pipeleers, Daniel: Diabetes Research Center, Vrije Universiteit Brussel	✓					
Radtke, Freddy: Head of Stem Cell and Cell Fate Determination Laboratory, EPFL			✓		✓	
Ravassard, Philippe: Neuronal Development and Stem Cells group, CNRS	✓					
Roeder, Inger: Group Leader, Institute for Medical Informatics, Statistics and Epidemiology, University of Leipzig			✓			
Sassoon, David: Pitié Salpêtrière Medical School, Inserm					✓	
Scharfmann, Rafael: INSERM E363, France	✓					
Semb, Henrik: Lund University	✓					
Smith, Austin: Director, Wellcome Trust Centre for Stem Cell Research, Uni Cam		✓	✓	✓		
Smith, Andrew: University Lecturer in Genome Engineering, Institute for Stem Cell Research, UEDIN		✓				
Tajbakhsh, Shahragim: Head of Research Unit Stem Cells & Development, Institut Pasteur			✓		✓	
Testa Giuseppe: Group Leader and Coordinator, ES cells/gene-targeting facility, European Institute of Oncology, Milan.			✓			
Tomlinson, Simon: Senior Lecturer, Institute for Stem Cell Research, UEDIN			✓			
Torrente, Yvan: University of Milan					✓	
Trumpp, Andreas: Head, Dept Cell Biology, German Cancer Research Center (DKFZ), Heidelberg			✓			
van Lohuizen, Maarten: Head of the Division of Molecular Genetics, Nederlands Kanker Instituut		✓	✓			
Watt, Fiona: Cancer Research CRI, UK					✓	
Wood, Kathryn: Transplantation Research Immunology Group, University of Oxford					✓	
Yli-Harja, Olli: Professor, Tampere University of Technology						
Zammit, Peter: Kings College London, UK					✓	
Zhidong, Ling: AZ-VUB, Belgium	✓					
Companies involved in Framework Programme funded research on Stem Cells						
Allsopp, Tim: Stem Cell Sciences Ltd, UK		✓		✓		
Apel, Michael: Miltenyi Biotech GmbH, Germany					✓	
Biunno, Ida: Biorep S.r.l., Milan, Italy				✓		
Bordignon, Claudio: MolMed S.p.A. Milan					✓	
Walsh, Jim: Axordia Ltd UK		✓				
Kola, Veit: AVISO GmbH Mechatronic Systems, Germany			✓			
Madsen, Ole: Novo Nordisk A/S, Denmark	✓					
Kitsberg, Danny: Stem Cell Technologies Ltd, Israel		✓				
Southern, Sir Edwin: Chairman and Chief Scientific Officer, Oxford Gene Technology			✓			
Tinsley, Jonathon: Director of Therapeutic Programmes, Summit Corporation PLC (previously VAStox Ltd), United Kingdom			✓			✓
Wahlberg, Lars: NS Gene A/S, Denmark				✓		

B) Guidelines on methods of communication. Partner 1b will provide expert insight based on her and her teams research in communicating stem cell research to non-specialist personnel of all ages.

C) Database of ongoing clinical trials involving stem cells – (8 ECRIN)

Partner 8 will provide detailed information on all ongoing clinical trials involving cell therapy (sources include information extracted from 'clinicaltrials.gov', 'orphanet' and the 'IFPMA' database which has been created as part of ECRIN's planned activities). This information will be inputted into the database to generate information for patients wishing to know more information on potential approaches that are being validated which will benefit them directly.

D) StemDirect - a contact database of European scientists active in stem cell research

Generated by Partners 1a and 5, StemDirect is an online resource which has **systematically identified leading established and emerging investigators** active in fundamental stem cell research in diverse organisms and tissues in each of the European member states and EEA countries, establishing a contact database managed via a 'Smart' system. Database inputs are based on established and emerging investigators in each of the member states and EEA countries, who i) have an active research programme focused on fundamental stem cell biology; ii) have at least one significant publication in the field; and iii) hold stem cell related research funding. Research on diverse organisms (including invertebrates and plants) and tissues is included, to ensure complete representation of the field. Emerging investigators are classified as those with less than 5 years experience as an independent group leader. The database is fully searchable by name and key words, and will be available from www.eurostemcell.org from early 2009.

E) Network of Patient associations. Partner 8 routinely interacts with the networks of patients associations which includes CIPAST network (Citizen participation in science and technology), EURORDIS (European Organisation for Rare diseases), Orphanet (the portal for rare diseases and orphan drugs) and the European Patients forum with whom the communication officer for ECRIN has routine and direct contact.

F) Network of international science correspondents. Partner 1a also brings in their complete network of science journalists working for ALL of Europes 27 countries major national newspapers to whom edited research data will be communicated.

WP2 – Dissemination through the Web

EuroStemCell website framework: originally created as part of the EuroStemCell Integrated Project from the sixth framework programme by Partner 1a, the basic infrastructure is still in place and accessible via the internet. It has become the European stem cell portal as a reference site for the wider European stem cell community, and due to the motivation of researchers involved who wanted to ensure that resources developed didn't just disappear it has been maintained. The maintained site highlights some of the most popular and useful resources – such as stem cell films, FAQ and some ongoing stem cell research projects. New features, developed since the end of the original project include a gallery of stunning stem cell images, commentaries on current developments in stem cell research and a stem cell news feed. It currently receives over 10000 unique hits per month (1a Blackburn).

WP3 – Development of resources for public engagement and for educators

A) Stem cell communication 'tool kit'. Generated by Partners 1a and 5, this is an existing package available via the original EuroStemCell project for communicating stem cell research to the wider community. The centrepiece of this toolkit is a series of four short films, which are available online or as a DVD in 6 European languages. A fifth film, on induced pluripotent stem cells, is currently in production and will be incorporated in early 2009, indicating the easily updatable nature of this platform. The toolkit also contains a dialogue event "The Stem Cell Dream", a role-play, "Ready or not? Stem cell therapy for spinal cord injury" and a variety of activities and workshops aimed at school students of different ages (see www.eurostemcell.org and www.crm.ed.ac.uk).

B) International clinical trial day organisation. Organised by Partner 8, this is an annual event through which the latest updates in stem cell research will be communicated to both clinicians and patient associations both via a dedicated meeting for stem cell research and through distribution of flyers.

C) European science museums. Collaboration with ECSITE (*see subcontracting*), the European Network of Science Centres and Museums, will bring a network of 450 of Europe's science museums and communication forums. The network includes all of Europe's countries and additionally also provides the EXTRA system through which all science communication events can be publicised and advertised by either groups of scientists or individual centres. ECSITE's member institutions typically attract more than 60 million visitors in their venues annually, and many millions more through their web-sites. More than 60% of visitors are under 25, and almost 40% are school students.

D) Schools. Partner 1a and 1b will bring the stem cell communication tool kit and curriculum research indicating where stem cell biology can be integrated into the Scottish secondary curriculum. These two resources have been integrated for providing information to Scottish schoolteachers for educating secondary school pupils about stem cell research. The resource will be updated and adapted for communication to local education authorities (LEA) in the UK and their equivalents in other partner countries.

E) Undergraduate students. Based on the number of entities implicated in the stem cell projects above, we will have access to and leverage their own internal communication and education systems and specifically their library structures for communicating stem cell research via newsletter and through links on their electronic library structures. Academic entities from the existing network are indicated below and through activities in work package 4 will be extended to include entities from all European countries:

Universities involved in EUROSTEMCELL	
Austrian Academy of Sciences	Austria
Vrije Universiteit Brussel	Belgium
Université Catholique de Louvain	Belgium
Peers, Bernard : Université de Liège	Belgium
Academy of Sciences of the Czech Republic	Czech Republic
Copenhagen University Hospital,	Denmark
University of Turku	Finland
University of Helsinki	Finland
Tampere University of Technology	Finland
Inserm	France
Institut Pasteur	France
CEA	France
CNRS	France
University of Technology, Dresden.	Germany
University of Bonn	Germany
University Hospital Groningen	Germany
University of Leipzig	Germany
University of Leipzig	Germany
The Hebrew University of Jerusalem	Israel
Tel Aviv University	Israel
European Institute of Oncology, Milan.	Italy
University of Milan.	Italy
E. Medea Scientific Institute,	Italy
University of Modena	Italy
IFOM, Milan	Italy
Fondazione Monte Tabor	Italy
Nederlands Kanker Instituut	Netherlands
Netherlands Institute for Developmental Biology	Netherlands
Spanish National Cancer Centre	Spain
University of Barcelona	Spain
Universitat Pompeu Fabre, Spain	Spain
Karolinska Institute	Sweden

University of Lund	Sweden
University of Basel	Switzerland
EPFL	Switzerland
University of Geneva Medical School	Switzerland
University of Sheffield	United Kingdom
University of Cambridge	United Kingdom
University of Edinburgh	United Kingdom
University of Cardiff	United Kingdom
Imperial College London	United Kingdom
University of Edinburgh	United Kingdom
Cancer Research CRI, UK	United Kingdom
University of Oxford	United Kingdom
Kings College London, UK	United Kingdom

F) Post graduate students. As part of the ongoing and planned activities of EuroSystem, NEuroStemCell and Optistem we have specific stem cell training workshops and summer schools which will be performed from 2009 to 2013. 50% of the places available to attend these events are reserved for non-project partner relevant students.

In particular, the annual **European Summer School "Stem Cells and Regenerative Medicine"**, maintains the highly successful initiative developed by the FP6 EuroStemCell consortium. These 8-day schools, aimed primarily at **pre-** and **early-stage post-doctoral** scientists, provide intensive theoretical training in key issues in fundamental and clinical stem cell biology; legislation and ethics; and commercialisation. Faculty will be drawn from the three organising projects and the wider European stem cell community, and will include basic scientists, clinicians, ethicists, regulators and biotechnologists. Plenary sessions and keynote round-table discussions featuring leading international speakers focus on different topics each year.

Members of this network will also play key roles in organizing the annual '**Advances in Stem Cell Research**' Conference Series, initiated by EuroStemCell, and now funded by EMBO for three meetings from a grant to Lendahl, Smith, Tajbakhsh and Arenas. The first of these took place in Stockholm in October 2007 and the next meeting is scheduled for July 2009 in Cambridge in Cambridge and the third for October 2010 in Paris. This meeting also provides an important training function for post-graduate students and postdoctoral researchers.

WP4 - Dissemination of best practise, expansion and sustainability

A) Participation in other European commission funded initiatives and access to leading European Institutes actively involved in European Commission funded projects.

Beneath we indicate the involvement of the entities from work package 1 A (above) in other European funded projects in life science. Many of the scientists listed above are partners in these projects which will be the primary entry point for dissemination. Additionally we will liaise with the grant administrators and public relations divisions, of these entities and the coordinators and managers of the project to provide the tool kit for communicating life science research.

Entity	Other FP7 life science Projects (Acronyms)
Cancer Research UK	PROACTIVE, ZF-CANCER, PRISMA, FUN-OCT, SKINSPECTION, ANTICARB, CANCERPATHWAYS, GENINCA, HYPERIMAGE, TUMIC, TELOMARKER, CARS EXPLORER, ADAMANT, O-PTM BIOMARKERS, PROMARK, ENCITE, OPCARE9, METACANCER, ENGAGE, PROSPER, GENICA
CEA, France	DECANBIO, NGIN, MEGMRI, FMTXCT, EVA, GEN2PHEN, EURONEUT-41, METAHIT, LUPA, EDICT, READNA, FAST, NEUGENE,

Copenhagen University Hospital	ATPBONE
CNRS , France	SYBILLA, POCO, LESHDRUG, ANTICARB, LUPA, FAD, NANO3T, REPLACES, MISMATCH2MODEL, CARS EXPLORER, TB-VIR, STOPLATENT-TB, ONCOMIRS, MEMOLOAD, MICROENVIMET, CRUMBS ON SIGHT, TISS.EU, TARCC, CISSTEM,
Dando and Colucci Ltd	SPINAL CORD REPAIR, PLASTICISE, ANGIOSCAFF
EPFL	ANGIOSCAFF, MEMSTICK, BETAIMAGE, TELOMARKER, NOVSEC-TB, NEUGENE
German Cancer Research Center (DKFZ), Heidelberg	SYBILLA, CANCERSYS, MITIN, COPACETIC, TOLERAGE
Hebrew University of Jerusalem	PROSPECTS, EDICT, SELECT AND ACT
IFOM, Milan, Italy	EUSTROKE, GENINCA, PREPOBEDIA, GENICA, ANGIOSCAFF
Imperial College London	HYPERGENES, TRANSMALARIABLOC, SKINSPECTION, FLUMODCONT, PHAGOSYS, EDICT, CHILD-INNOVAC, MARK-AGE, ANTHEREMO
Inserm, France	HYPERGENES, NEUROCYPRES, REPROBESITY, STAR-T REK, EUROVISIONET, ARISE, RAREDISEASEPLATFORM, EUROPADNET, EUNEFRON, DIAPREPP, EUSTROKE, GENICA, GEN2PHEN, BRAINSYNC, FAD, HIV ACE, ADAPT, CUREHLH, CANCERSYS, NMD-CHIP, APO-SYS, HOMITB, REPLACES, LIV-ES, CARS EXPLORER, TB-VIR, PENTA LABNET, DEVANX, EURIPFNET, CHILD INNOVAC, EUROTRAPS, TALOS, ICREL, TARCC, LIPIDOMICNET, TOLERAGE
Institut Pasteur	MEMSTICK, NEUROCYPRES, LEISHDRUG, ARISE, EURONEUT-41, HIV ACE, HOMITB, TB VIR, PREMALSTRUCT, EURODSD, NOVSEC-TB, MARK AGE, INEF, TOBI, NANO MUBIOP
Karolinska Institute	PREGVAX, LACTOBODY, EURADRENAL, NGIN, AEROPATH, RAREDISEASEPLATFORM, FLUODIAMIN, EURO PADNET, EUSTROKE, METAFIGHT, GEN2PHEN, SPINAL CORD REPAIR, FAD, ADAPT, CUREHLH, NMD-CHIP, APOSYS, HOMITB, EDICT, MEMOLOAD, EURODSD, EUCAAD, ENGAGE, ANTHEROREMO, SELECT AND ACT, TOLERAGE
Medical Research Council, UK	PREDICT, HIV ACE, STEMEXPAND, EDICT, NEURO.GSK3, PENTA LABNET, NOVSEC-TB, LIPIDOMICNET, CISSTEM
Miltenyi Biotech GmbH, Germany	STAR T-REK
Nederlands Kanker Instituut	NEUROCYPRES, HYPERIMAGE, TUMIC, PHAGOSYS, MISMATCH2MODEL,
Novo Nordisk A/S, Denmark	METAHIT
NS Gene A/S, Denmark	ARISE
Oxford Gene Technology	EURO PADNET
San Raffaele Hospital/DIBIT	NGIN, EUNEFRON, DIAPREPP, TM-REST, NGIDD
Spanish National Cancer Centre	DECANBIO, UROMOL, HYPERIMAGE, TELOMARKER, CANCERDIP, MARK AGE, GENICA
Stem Cell Technologies Ltd, Israel	PURSTEM, NANOSCALE
Tel Aviv University,	APO-SYS, NEURO.GSK3, ENCITE, KAPPA HEALTH
University of Barcelona	PREGVAX, MEMOSAD, UROMOL, TOCAR, DISC REGENERATION, ANGIOSCAFF, MODSIMTEX, LEISHDRUG, FUTURESYSBIO, ARISE, NANOTEST, ZF-

	CANCER, PRISMA, PROSPECTS, PREDICT, DIAPREPP, EUSTROKE, GEN2PHEN, METAHIT, BRAINSYNC, LUPA, UNICELLSYS, MITIN, EDICT, STOPLATENT-TB, ONCOMIRS, ENGAGE, ICREL,
University of Basel	SYBILLA, EUADRENAL, DISCREGENERATION, ANGIOSCAFF, CAEC, PREDICT-IV, ESNATS, SPINAL CORD REPAIR, TUMIC, EDICT, DEVANX, TARCC
University of Bonn	EUROVISIONNET, CODICE, NEUROGLIA, LIPIDOMICNET, DIRECT
University of Cambridge	NEUROCYPRES, ANGIOSCAFF, CORONA, SFMET, GEFOS, PROSPECTS, EUCLYD, EUSTROKE, SPINAL CORD REPAIR, LUPA, CUREHLH, UNICELLSYS, MITIN, EDICT, LIV-ES, EURODSD, PROMARK, METACANCER, TALOS, TB-EURO-GEN, GENICA, LIPIDOMICNET
University of Cardiff	FUN OCT, DIAPREPP, REPLACES, NEUROGLIA
Université Catholique de Louvain	EUNEFRON, RESOLVE, ECONAM, TARCC,
University of Copenhagen	MEMSTICK, NGIN, PILGRIM, ESI-TBVI, O-PTM BIOMARKERS, ATPBONE,
University of Edinburgh	ESNATS, FUNGENES, STEMSTROKE
University of Helsinki	SYBILLA, TROCAR, INTERLINKS, MEGMRI, RAREDISEASEPLATFORM, FLUODIAMON, FLUMODCONT, DIAPREPP, DIABIMMUNE, EUSTROKE, GENODISC, GEN2PHEN, LUPA, NEUROPRO, APO-SYS, EDICT, LIV-ES, MICROENVIMET, CATAFLU.OR, ECOSH, IMECS, INEF, ENGAGE, GENICA, HEALTHATWORKLIPIDOMICNET
University Hospital Groningen, the Netherlands	ROWER, TROCAR, NANOPHOTO, DIABIMMUNE, STEMEXPAND, RESOLVE, EDICT, COPACETIC
University of Leipzig	NEUROPRO, CANCERSYS
Université de Liège	DEVANI, ESNATS, LUPA, FAD, MICROENVIMET, ADAMANT
University of Lund	NGIN, ARISE, EUCLYD, DIAPREPP, STEMEXPAND, REPLACES, EUCAAD, READNA, ENGAGE, PROSPER, NEUGENE
University of Modena, Italy	NEUROCYPRES, SKINSPECTION
University of Oxford	SYBILLA, EURADRENAL, EURO PADNET, GENODISC, LUPA, UNICELLSYS, READNA, EDICT, TREAT OA, ENGAGE, LIPODMICNET
Universitat Pompeu Fabre, Spain	UROMOL, LEISHDRUG, BRAINSYNC, UNICELLSYS
Vrije Universiteit Brussel	BETAIMAGE, ESNATS, START-UP
University of Milan.	HYPERGENES, NGIN, ANGIOSCAFF, STAR-T REK, EUNEFRON, FLUMODCONT, DIAPREPP, TM-REST, GENODISC, METAHIT, UNICELLSYS, TIPSS, EDICT, REPLACES, ADMANT, NGIDD, PREPOBEDIA, NOVSEC-TB, ENCITE, NEUROPT, GENICA, ANTHEROREMO, HEALTH AT WORK, IBDASE, CISSTEM, INTENANT, TOLERAGE
University of Technology, Dresden	PHENOXIGEN, NMD CHIP
University of Sheffield	GEFOS, PREDICT-IV, CANCERPATHWAYS, PREDICT, CRUMBS IN SIGHT, PROSPER, IPODD, ATPBONE

B) Network of Patient associations. Partner 8, brings its close ties with patient associations in Europe, including CIPAST, EURORDIS, Orphanet and the European Patients forum with whom the communication officer for ECRIN has routine and direct contact.

C) Existing European Commission communication structures. While not exclusive property of any of the partners, these external resources will be leveraged and include initiatives such as the National Contact Points and Cordis on which the complete list of projects supported by the commission can be found . We will send the life science communication package to those coordinating entities that are no present in the list above.

D) Links to stem cell and science organsations and networks. All the PIs of the project and those associated with each stem cell project are members of many high level associations, to whom the tool kit (stem cell focused and adapted) will distributed, and with whom we will link to develop and share best practice. These associations include**:** the UK Stem Cell Bank, the International Society for Stem Cell Research, the International Consortium of Stem Cell Networks, the Huntington's Disease Society of America, the HighQ Foundation, and the European Forum for Good Clinical Practise.

WP5 – management

Experience in managing international projects is brought by Partners 1a, 2, 3, 4, 5, 6, 8, 11 and 12. Outline management and quality control procedures to be customised to project requirements upon project implementation along with web-conferencing system to permit virtual and distant management of EUROSTEMCELL is available.

Subcontracting:

In work package 5, we will subcontract to ECSITE the activities for reaching families and individuals who visit science museums.

ECSITE - the European Network of science centres and museums- is a non-profit collaborative network of science centres and museums. Its objective is to promote public awareness of science and technology, and to facilitate co-operation between science-technology centres, museums and related institutions in Europe. Ecsite offers its members projects, programmes and services, sharing resources and information, aiming to improve and co-ordinate their activities.

Traditionally ECSITE provides information services and networking tools such as the Newsletter, the website, the Annual Conference, specific seminars for directors and staff training. But regarding the above, over the years the network has tried to increase the professional capacity of the whole field by taking up different challenges and projects.

Latest development of networking is the organisation of professional sessions in the frame of the Annual Conference that are targeted to staff members, such as: exhibit development, tools for education, multimedia products and marketing for example. The objective is to increase direct contact in these fields between people and, by this, increase the professional capacity of the whole science centre sector.

What makes the strength of ECSITE is the capability to manage network projects in addition to providing the traditional information and networking services to members. That means initiatives from the Brussels office that involve several members for specific projects that will become beneficial for all members. It also means that the Brussels office is sometimes a platform for exhibition projects between members

Rationale for subcontracting: ECSITE is not a legal body, but composed of a network of 335 museums, each of which is its own legal entity. It is logistically impossible to include all 335 entities as partners, and at present it is not known in which museums and centres we will perform stem cell research dissemination. The organisation of events is anticipated to cost from 4 000 to 10 000 euros per event.

2.4 Resources to be committed

Beneath we detail by work package the total costs for performing the activities of EUROSTEMCELL and where appropriate indicate if financial support has already been obtained and its source.

Effort and travel costs for COORDINATION activities (all values are in euros)

Partner	Months of effort	Cost of Effort	Travel	Overhead (7%)	Total costs and requested budget
1a	84	488372	9000	34816	544630
1b	4	12500	3000	1085	16585
2	3	6000	4000	700	10700
3	6	19714	4000	1660	25374
4	3	8700	4000	889	13589
5	3	8700	4000	889	13589
6	3	8700	4000	889	13589
7	3	14000	4000	1260	19260
8	3	8700	4000	889	13589
9	3	8700	4000	889	13589
10	3	8700	4000	889	13589
11	3	12500	4000	1155	17655
12	4	12000	4000	1540	23540
Total	125	617286	56000	47130	720416

Effort and travel costs for MANAGEMENT activities (all values are in euros)

Partner	Months of effort	Cost of Effort	Overhead (7%)	Total costs and requested budget
1a	2	11628	813	12441
3	1	3286	230	3516
12	2	6000	420	6420
Total	5	20914	1464	22377

OTHER costs (all values are with 7% overhead included)

WP1 – Information management

Database: The database structure has already been created at a total cost of 25 000 euros, paid for via the FP7 project EuroSystem and therefore will require no further financial support.

Web based conferencing: The license for this software has already been obtained at a total cost of 20 000 euros (5000 euros per year), paid via the FP7 project Optistem which will run at the same time as EUROSTEMCELL, and therefore will require no further financial support.

Requested contribution: 0 euros

WP2 – Dissemination through the web

Website development and maintenance: 65 000 euros total to be covered by Optistem outreach budget

Generation of press releases and flyers: 10 000 euros total

Translation costs: 22 000 euros total

Marketing of website: 40 000 euros total

Requested contribution: 72 000 euros

WP3 – Resources for Public Engagement and for Educators

Events and development of public engagement resources: 175 000 euros.

Subcontracting to ECSITE: 10 000 euros (no overhead added in accordance with FP7 financing regulations)

International clinical trials day: Costs of 50 000 euros which are already supported via FP7 funding of the infrastructure ECRIN, therefore no financial support is requested for organisation.

Schools: This activity will be performed via direct e-mail and phone contact to Local Education Authorities throughout Europe, specifically to the personnel responsible for science development, advertising the website on which all educational resources will be found. Therefore the costs for this will be covered by the overhead contribution to the personnel costs.

Undergraduate – all academic centres libraries: All entities (partners and scientific groups implicated in the stem cell prpojects) have received funding support from the European commission. No further costs are anticipated for performing these tasks.

Post graduate – training workshops and summer schools have a total cost of 753 000 euros which are already paid by Eurosystem, NEuroStemCell, and Optistem, therefore no further funding is required to perform these tasks.

Requested contribution: 185 000 euros

WP4 – Establishment and dissemination of best practise

No other direct costs are anticipated for this work package as all communication will be performed via electronic means and therefore supported out of the overhead associated with each partners personnel costs.

Requested contribution: 0 euros

WP5 – management

No other costs are anticipated for this work package.

Requested contribution: 0 euros

Total requested budget is: 999 793 euros

3. Impact

3.1 Expected impacts listed in the work programme

Contribution to the Topic

Through their governments, European citizens and stakeholders have contributed 51 billion euros to their own future, of which 6.1 billion euros has been earmarked for life science research, 1.9 billion euros for biotechnology and 3.5 billion euros for nanotech (which also has several life science projects) in the 7th Framework Programme. The benefits to be obtained from this investment extend beyond the duration of the 7th Framework programme – it is often hard to anticipate when fundamental research activities may have impact, and even for more applied research the timescales for impact are usually in excess of 5 years. Europeans are therefore directly investing in their own welfare and, equally importantly, in their own socio economic sustainability. Scientists thus have a responsibility to communicate the outcomes of their work to the European public to help deliver this sustainability and ensure that Europe continues to produce leading science and scientists in the life sciences field, scientists have a responsibility to communicate the outcome of their work to the European public. This is crucial if Europeans are to recognise the benefit, potential and critical importance of the work they are supporting - either as a source of information, a source of therapy or as a stimulus to attract bright young minds into its professional ranks.

The call published by the European Commission, **HEALTH-2009-4.1-2: Dissemination of results from research in Life Sciences and Biotechnology for Health to the general public and/or information multipliers** forms part of **4.1. COORDINATION AND SUPPORT ACTIONS ACROSS THE THEME: Dissemination and Knowledge Transfer** of the work programme, and has been focused to generate approaches through which Europeans can be kept highly informed of the research and clinical translation being performed via European Commission administrated funds. To address this call, we have focused our consortium and approach initially on stem cell research, leveraging successful 6th Framework Programme initiatives for communicating this high profile scientific field. Accordingly, we have established a partnership between the coordinators of FP6 and FP7 funded stem cell projects and experts in understanding, developing and implementing optimal, target group-focused life science communication. Collectively we will advance communication in the field by specifically addressing present hurdles to effective high impact communication of science.

The project as a whole will contribute to the major impacts requested by the European Commission, as detailed below:

Contribution to the implementation of the Framework Programmes
By fostering interaction between the major stem cell projects active in the framework programmes, we will accelerate progress in this field. We will achieve this by promoting networking and information sharing, including supporting collaborative model-building. The project will also give a defined presence to European Stem Cell Research. *This has expected additional benefits of increasing awareness of European Science in talented pre- and post-doctoral researchers (with a potential impact of realigning career decisions), promoting collaboration/cross-fertilisation between industry and academia, and* ***increasing competitiveness and cohesion in European stem cell research.*** In particular, we anticipate this project will augment the training and networking activities of current and future framework-funded stem cell projects, by increasing the visibility of these programmes. Significant synergy is also anticipated with the activities of the FP7 stem cell project EuroSyStem in beginning to federate the European stem cell field. The project will therefore impact upon both the academic and capacity building goals of the framework programmes, contributing to targets identified in both the Health and People programmes. Following dissemination of the best practice model established herein (WP4), these impacts may be extended beyond the initial scope of this project by implementation of the communications model optimized through this work to other Life Sciences projects.

Communicate more efficiently health research results to general audiences
We have adopted a comprehensive and sophisticated strategy for communicating stem cell research to general audiences, including development of a coordinated platform for evaluation, management and structuring of information for dissemination through the web, direct engagement, and education. Scientists working at the highest level in this field will drive these activities, ensuring scientific accuracy in all project outputs. The detailed work

plan is designed specifically to improve efficiency in dissemination strategies, and builds on both our own previous experience and research, and on European research on communication strategies in life sciences (detailed below). Our dissemination activities are designed to:

- be multilingual and thus available to all member states and their citizens
- be easily accessible, professionally developed and well structured
- highlight advances and benefits, be innovative and stimulating
- be based on current activities and peer reviewed
- focus on and be clear for the level of understanding of the target audience
- avoid duplication of effort and/or overlap of communications outputs, and maximise the usage/ impact of each piece of work
- develop enhanced communication skills and awareness of science in its wider context among European stem cell scientists
- leverage existing structures and networks
- include all potential information multipliers for reception of the scientific updates
- provide a centralized archiving facility for all framework funded stem cell outputs

As its overarching goal, EUROSTEMCELL will develop best practice in large–scale management of scientific information and dissemination of key advances in stem cell research to European citizens and stakeholders, with resulting high impact in terms of both call 4.1.2 itself and the wider aims of theme 4.1. A major outcome will be improved public understanding of stem cell research and regenerative medicine throughout Europe.

Contribute to the preparation of future Community research and technological development policy.
EUROSTEMCELL will also function to bring together on a regular basis current leaders of European stem cell research and, through discussion of communications priorities, will stimulate debate on ambitions for progression of this field in Europe. Additionally, it will effectively provide a centralized monitoring function for gauging progress in fundamental and translational stem cell research across Europe. Collectively, these functions will contribute directly to preparation of future research and technology development policy in this area. The outcome of this project will be to enhance understanding of stem cell research and associated ethical and societal issues in Europeans, including the general public, patients, clinicians, politicians, legislators and regulators. This improved understanding will also impact development of future research and technology development policy in a broader sense, by facilitating informed debate.

Key steps

Communication strategies in life sciences

Latest research on communicating science to the public and stakeholders (*Special Eurobarometer 282 - Scientific research in the media: wave 67.2 – TNS Opinion and social, published by the European Commission December 2007*) has indicated several preferred methods and approaches. These have been integrated into our approach as detailed below, and will be leveraged as far as financially possible to achieve our planned objectives and obtain the highest possible impact.

i) Best personnel to present the information
This forms the crux of our approach to forming the consortium and strategies for communicating the science. Overall, European citizens prefer receiving information from the academic specialists performing the research. In this proposal, the structure of the system for information collection, editing and distribution for further dissemination means that coordinated and peer reviewed by the scientists, who also write the primary reports. This ensures that only the highest quality information will be communicated through our activities. Furthermore, the active involvement of leading scientists will ensure that the most accurate and contemporary synthesis of knowledge is presented across the stem cell field.

ii) Regular reports should be concise, in depth reports should be infrequent
The major approach for our communication strategy, based on resources and finances available, is focused on dissemination via the web, to the European and international press, or through provision of resources for direct public engagement and for educators. Throughout the project, we will focus on provision of concise, accessible

and engaging information. This will be augmented by in depth reports on areas of major significance. Exceptions to this approach will be development of public engagement resources, for instance role-plays and potentially short films, which are designed to provoke thought and discussion and will therefore cover a range of subjects, usually broken down into short topics for accessibility.

iii) Providing the opportunity to participate in scientific debate
This is not considered a major requirement by Europeans, however we value direct public engagement and will engage with a range of audiences in this project (WP3). The EUROSTEMCELL website will also provide an opportunity for dialogue and provide first hand information to the scientists as to how Europeans perceive their work.

iv) Best methods for communicating
Results from a recent Eurobarometer study indicated which method Europeans consider best for communicating science (see table below).

Method	Television	Newpapers	Internet	Radio	Magazines	Other	Do not know
%	47	16	12	9	9	1	6

While TV is obviously a popular medium for science communication, the associated costs and time demands are prohibitive for most purposes. Furthermore, TV often presents a restrictive format for information delivery. We have therefore chosen to focus on three routes for communication: the web, direct engagement and education, and will also engage through the press and broadcast media when appropriate. These are chosen for their capacity to reach a wide range of target audiences across Europe, spanning all educational levels, and for their modular nature, which allows progressive addition of new materials as the science advances. It is of note that the internet is beginning to supplant television as the top media activity[3] - a trend that is particularly marked among younger audiences/users and is already is already a recognized source of science information. In the US, the web has become the second most used source of information on science, with 20 per cent of Americans going online to get most of their science news. The web is also the source to which people would turn first if they need information on a specific scientific topic.[4] In the context of newspapers and magazines, the close links we will establish with European and international science journalists will result in reaching a significant proportion of the public throughout the course of the project. Based on information regarding European preference for reading about science (see below), we will use our press contacts to leverage coverage of comment pieces and feature articles as well as promoting significant advances through the standard press release – news story format. *Our comprehensive approach utilizing the major dissemination routes is anticipated to result in increased open debate and public understanding of stem cell research and regenerative medicine across Europe.*

How Europeans prefer to read about science in the press (source: EuroBarometer)

[3] Google survey, cited in Guardian Unlimited, 8/3/06. http://technology.guardian.co.uk/news/story/0,,1726018,00.html; Ofcom Media Literacy Audit, 2/3/06
[4] Horrigan, J.B. (2006) *The internet as a resource for news and information about science,* Pew Internet & American Life Project, Washington D.C., USA

Measuring our impact

As described in work packages 4 and 5, we have built into our work plan a detailed structure responsible for both managing the project and performing quality control. Evaluation of responses, interactions, and level of uptake and use of the information and tools generated as part of the project will provide measures of our impact throughout the project to measure our impact, and will form part of each annual report.

Necessity for an European approach and integration of national and international research activities

A European approach is required for two reasons. First, it is clear that to achieve our impacts and the widest possible distribution of information generated through European funded research projects, a strategy needs to be developed which formalizes cooperation between partners who are already active in networking and partnering throughout Europe. This has been achieved through this partnership, which directly represents 82 academic labs and 11 SMEs either individually participation or through the coordinator of consortia in which they participate. The partnership offers direct and immediate access throughout Europe to 450 clinical centres, 335 science museums and dissemination centres, and the 55 legal entities represented are so far involved in 40% of Europe's life science funded projects. We will springboard off this network to ensure that as many as possible of the other projects and all European countries can benefit: this will only be possible due to the Europe wide implementation and validation of our proposed strategies and plans.

Second, European stem cell research currently lacks a clear focal point, limiting our competitive edge vis-a-vis the USA and Asia. The FP6 IP EuroStemCell provided the foundations for a virtual European Stem Cell Institute. However, development of this nucleus into a wider community requires additional actions. An important component is the systematic identification of researchers at all career levels active in stem cell research throughout Europe, particularly in new member states for which little information is available through the normal networking channels, and at early stages in independent careers - as now initiated in the FP7 large-scale project EuroSyStem. Further to this, provision of an internationally visible presence for the European stem cell community is required: this goal is addressed directly herein through the development of a European Stem Cell Portal.

Negating possible negative impacts

EUROSTEMCELL focuses on communicating information on advances in stem cell research and life science that could be of interest and benefit to Europeans. We do not anticipate and have not identified any external factors that could negatively influence these activities. However the nature of the research being performed and therefore communicated does involve socially sensitive and provocative subjects such as stem cells, genetic information and privacy, and animal research. There is the potential of a negative backlash from certain groups that object to such work being performed. In line with ongoing policy in many European research institutions we will ensure that references to sensitive subjects are presented in ways that do not provoke or encourage negative perception and reaction. In addition, we will not advertise the precise contact information for any scientists who request this to be withheld. This will be specifically monitored and performed by Partner 10.

3.2 Spreading excellence, exploiting results, disseminating knowledge

As described in work packages 2 to 4, and in section 2.3 - resources to be leveraged in EUROSTEMCELL, we have an extensive and comprehensive plan to ensure that as much scientific information and know-how of the consortium partners are disseminated to as wide a public audience and as many researchers as possible. Beneath we indicate supplementary actions that detail our approaches to ensuring that all stakeholders are informed of our activities and our plans for sustainability.

Integrating new stem cell projects
The partners in the project represent the major stem cells presently under study (mesenchymal, neural, epithelial, muscular, endocrinal, endodermal/intestinal, hematopoietic, and pluripotent [including embryonic and induced]). The partners responsible for the specific stem cell areas will contact all new stem cell project coordinators to inform and describe the activities of EUROSTEMCELL. Through this approach we are confident of integrating with new high quality stem cell projects as they arise and of disseminating best practise from our activities to them for their use.

Integrating new non-stem cell projects
As indicated in work package 4, we have developed extensive and easy to implement plans to disseminate our best practise and an adapted 'communication tool kit package' to all projects receiving financial support from the European Commission. We will rely on a good line of communication between the coordinator and the European Commission to be kept updated on all new funded projects so that this can be facilitated with very little effort.

Exploiting results and sustainability
The implementation of this project is entirely dependent on European Commission funding: directly via this application and indirectly via funds used in the partners' own stem cell and infrastructure projects. For the duration of this project this represents the foundation funding needed to perform our planned activities. To address the sustainability of our output and possible increases in it we consider the following actions to be the best approaches:

-*new stem cell and/or life science projects*: a small annual contribution to maintenance of the informatic component, which collectively should cover the running costs of this primary information resource, will be solicited if appropriate.

-*further European funding initiatives:* we will consider submitting applications to further European calls, such as in the science and society topics or calls supported by DG Education. We will also liaise with the ESF and EMBO to discuss potential financial support.

-*national and local funding:* local authorities and national funding bodies have significant funding available to support initiatives performed by local entities. We will advertise EUROSTEMCELL to these bodies, including its success stories and impacts, and monitor all possible open funding opportunities that could support our planned activities and extend them to include more advanced and expensive media approaches such as TV coverage (for a 15 minute film, the average total costs for production are 80 000 euros).

-*philanthropic organisation and foundations:* There are some private organisations that support the communication of scientific activities through philanthropic investment. Similar to the national and local funding, we will liaise with these entities to explain and promote our activities and to discuss possible financial support.

-*industry*: Within the stem cell projects coordinated by the partners of this project are several companies (indicated in section 2.3). Much of the focus of these companies is not exclusively on stem cell science, but encompasses many aspects of molecular and cellular biology. Following the initiation of EUROSTEMCELL we will, as part of the research project activities, liaise with these companies and solicit donations to support further public engagement activities.

National Authorities, NGOs and industry.
It is essential that these entities receive information on the activities of the project and the scientific updates that are generated as part of the project. Assuming that these entities monitor the press, they will be informed of the scientific updates generated by the ongoing research activities. However we consider it important that they also receive direct information. Therefore the annual report that will be generated as part of the reporting activities will be condensed into a concise summary and sent to the relevant personnel in the different bodies. National Authorities will be approached via direct contact with the relevant ministries with whom the partners involved are routinely in contact, or in some cases actually advise them directly already. Non-Governmental Organisations, such as the WHO and the OECD will be also contacted directly and presented with the annual summary and the dossier of communication releases made that year.

For liaising with industry, while we know that their business development units are routinely assessing the market and are also involved in active collaborations with academic and non-profit research entities we will also distribute the same package designed for the NGO's to them. Prior to performing this, we will re-check with the relevant partners' technology transfer specialists to assess that no confidential or valuable information has been included. While this will be performed as part of the normal activities for communicating information we will wait for their agreement prior to performing this step.

4. Ethics

In the following table we indicate the overall ethical issues of **EUROSTEMCELL**

ETHICAL ISSUES TABLES

	Research on Human Embryo/Foetus	Yes	Page
*	Does the proposed research involve human Embryos?		
*	Does the proposed research involve human Foetal Tissues/ Cells?		
*	Does the proposed research involve human Embryonic Stem Cells (hESCs)?		
*	Does the proposed research on human Embryonic Stem Cells involve cells in culture?		
*	Does the proposed research on Human Embryonic Stem Cells involve the derivation of cells from Embryos?		
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	Y	

We expressly confirm that this research proposal does not involve human embryonic stem cells.

	Research on Humans	Yes	Page
*	Does the proposed research involve children?		
*	Does the proposed research involve patients?		
*	Does the proposed research involve persons not able to give consent?		
*	Does the proposed research involve adult healthy volunteers?		
*	Does the proposed research involve Human genetic material?		
*	Does the proposed research involve Human biological samples?		
*	Does the proposed research involve Human data collection?		
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	Y	

	Privacy	Yes	Page
*	Does the proposed research involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?		
*	Does the proposed research involve tracking the location or observation of people?		
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	Y	

	Research on Animals	Yes	Page
*	Does the proposed research involve research on animals?		
*	Are those animals transgenic small laboratory animals?		
*	Are those animals transgenic farm animals?		
*	Are those animals non-human primates?		
*	Are those animals cloned farm animals?		
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	Y	

	Research involving developing countries	Yes	Page
*	Does the proposed research involve the use of local resources (genetic, animal, plant, etc)?		
*	Is the proposed research of benefit to local communities (e.g. capacity building, access to healthcare, education, etc)?		
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	Y	

	Dual use	Yes	Page
*	Research having direct military use		
*	Research having the potential for terrorist abuse		
*	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	Y	

Annex I – Abstracts of European Commission funded Stem Cell Projects

EuroCancer Stem Cell (coordinator Partner 1a – Claus Nerlov)

Cancer remains one of the leading causes of death in the Western world, and while chemotherapy has provided a major improvement in survival for a wide array of malignant diseases lethality remains high in most cancers and side-effects are severe, and include developmental impairment, when used in childhood malignancies, infertility as well as damage to non-malignant tissues with resulting diminished quality of life for a large proportion of survivors. Recently, the realization that several tumour types contain rare populations of cancer stem cells (CSCs), which are capable of reforming the tumour upon transplantation while their progeny are not, have opened the possibility of using CSCs as targets for directed molecular therapies that could lead to improved tumour eradication as well as reduced side effects of treatment. The goal of the present project is to perform a thorough characterization of AML, cALL and breast cancer CSCs, as well as a systematic comparison of these with their normal stem cell and progenitor counterparts using gene profiling, to identify putative molecular targets in CSCs. In parallel, we will use mouse genetic modelling to obtain information about genes regulated by oncogenic changes in stem- and progenitor cell populations. Directly oncoprotein-regulated CSC targets will be validated in vitro and, where relevant, in vivo. Finally, we will screen small molecule libraries for compounds that antagonize leukemogenic oncoproteins in efficient zebrafish models. These compounds will be tested for activity in mammalian assays, screened against the putative targets identified by gene profiling, and used to affinity-purify additional interacting proteins. The final outcome will be a set of identified and validated CSC molecular targets, and a corresponding collection of small molecule inhibitors with activity against the effects of leukemogenic oncoproteins on hematopoietic stem cell/progenitor populations.

Optistem (coordinator Partner 2 – Giulio Cossu)

This proposal aims to develop new strategies which will lead to increased efficacy of clinical trials with adult, tissue stem cells for degenerative diseases of epithelia and skeletal muscle. Despite many structural and functional differences, epithelia and skeletal muscle share some key features such as spatially ordered cell architecture, almost devoid of extra-cellular matrix and centered on a supporting basal lamina to which stem cells are anchored. Indeed mutations in structural proteins linking the cell membrane to the basal lamina are responsible for similarly devastating diseases such as muscular dystrophies and different forms of epidermolysis bullosa. This multi-tissue approach also leads to the additional benefit of jointly addressing and solving regulatory issues and ethical problems related to these novel procedures. Finally, sharing expensive platforms such as large animal facilities and GMP cell culture facilities increases performance and reduces costs. Based on these considerations, a network of internationally recognized experts who are leaders in their specific field, has been assembled, with the assumption that work carried out in one system may also benefit the other, creating a synergistic approach that will in the end increase the chance of success for ongoing and future clinical trials with stem cells. The beneficiaries will perform the following key actions to ensure this happens:

- Phase I and potentially IIa cell therapy trials for patients with muscular, skin or ocular disorders
- In depth optimization of cell therapy studies in large animal models, including genetic correction of cells for congenital disease
- Profound analysis of the fate of the stem cells in these large animals to address key issues of differentiation, molecular control and transplantation efficacy
- Small animal modeling which extrapolates key information from the clinical and pre-clinical studies to assess increasingly novel therapeutic strategies in new and more pathophysiologically relevant ways
- Perform cutting edge molecular and cellular analysis of the targeted stem cells to better characterize the key regulatory, transcriptional and signal transduction pathways that influence in vivo activity
- Analysis of approaches to increase angiogenesis in damaged tissue to ensure sufficient nutrient and oxygen supply to the regenerating tissue (a pivotal factor in efficient cell therapy)
- Perform in depth immunological studies at the in vitro and in vivo level to determine if the stem cells used in this study elicit any adverse or beneficial effect, both in vitro and in vivo. Further studies will be performed to modulate the immune response and/or induce tolerance

The network includes internationally recognized muscle and epithelial cell biologists, immunologists, experts in angiogenesis, tissue remodeling and pharmacology as well as two Companies whose role will be focused on the characterization and in vitro amplification of human stem cells for therapeutic purposes. Furthermore, many of the

participants are continuously engaged in public discussion (radio, tv, newspapers) in their own country thus directly disseminating scientific knowledge to the general public as well as to a more specialized audience, through scientific meetings, workshops and summer schools.

NEuroStemCell (coordinator Partner 3 – Elena Cattaneo)
The NEuroStemCell consortium will foster collaboration between leading European experimental and clinical researchers in order to maximize the prospects for successful clinical trials of stem cell therapy for Parkinson's Disease (PD) and Huntington's Disease (HD). The activities will be driven by a Clinical WorkPackage (WP), which will set the requirements and monitor and guide advances in development of the most promising cells. The goal is to compare different stem cell sources with respect to their capacity to generate mesencephalic Dopaminergic and striatal GABAergic neurons suitable for neuronal cell replacement. The major sources will be neuralised Embryonic Stem (ES) cells, adherent Neural Stem (NS) cell lines and short term expanded Ventral Midbrain neural stem cells/progenitors grown as Neurospheres (VMN). Two exploratory WP will use extrinsic cues to specify neuronal differentitation and compare rigorously the different human stem cell lines and their progeny in giving rise to authentic neurons. WP3 will integrate long-term assessments of functional (motor and cognitive) recovery in appropriate animal models of PD and HD, and WP4 will exploit non-invasive in vivo imaging to evaluate the survival, composition, integration and functional impact of the donor cells in host brain. These two WPs will also provide the elements necessary to standardize the extent of recovery as a function of cell replacement and integration. In WP5, three SMEs will generate the technologies for manufacturing and scale-up of safe, fully traceable, efficacious and banked stocks of cells ready for clinical use. Regulatory and ethical requirements will be considered in the Clinical WP which also incorporate training. Building on the successful experience of the FPVI EuroStemCell project, NEuroStemCell will provide a focal point for European researchers engaged in the translational aspects of stem cell-based strategies to develop cures for PD and HD.

BetaCellTherapy (coordinator Partner 4 – Daniel Pipeleers)

Diabetes is a frequent chronic disease, with a major impact on the patient's quality of life and with an increased risk for chronic complications. It is caused by massive losses in insulin-producing beta cells in the pancreas as a result of local inflammatory and autoimmune reactions. Patients require life-long insulin treatment that can be well adjusted to the metabolic needs but that does not mimic the tight control achieved by a normal beta cell population. Consequently, glycemia is more variable and metabolic complications may occur, acutely as unconsciousness or coma, chronically as tissue lesions that can lead to blindness, kidney failure, foot ulcers. Regenerating a functional beta cell mass is thus a major goal in biomedicine and in society. Our objective is the development of beta cell therapy for the treatment of diabetes. The novel interventions aim at restoring an adequate beta cell mass by transplantation or by regeneration of the insulin producing beta cells in the pancreas. To achieve this aim the consortium investigates ways for the large-scale production of beta cell grafts and their testing in preclinical models, in combination with new immune protection protocols. Over the past years a network has been established in which clinical trials are designed and driven by an R&D platform with associated bio-industries, and supported by reference centers. This collaborative program has been successful in translating laboratory findings towards clinical and bio-industrial applications.

EuroSystem (coordinator Partner 5 – Austin Smith)
EuroSyStem brings together elite European research teams to create a unique and world-leading programme in fundamental stem cell biology. By interconnecting complementary biological and computational expertise we will drive the generation of new knowledge on the characteristics of normal and abnormal stem cells. We will pave the way for application of systems methodology by measuring and modelling stem cell properties and behaviour. Information will be mined from studies in model organisms, but our primary focus is on the paradigmatic mammalian stem cells – haematopoietic, epithelial, neural and embryonic. We will compare cellular hierarchy, signalling, epigenetics, dysregulation, and plasticity. Niche dependence, asymmetric division, transcriptional circuitry and the decision between self-renewal and commitment are linked in a cross-cutting work package. A multidisciplinary approach combines transgenesis, real time imaging, multi-parameter flow cytometry, transcriptomics, RNA interference, proteomics and single cell methodologies. SMEs will contribute to the development of enhanced resolution quantitative technologies. A platform work package will provide new computational tools and database resources, enabling implementation of novel analytical and modelling approaches. EuroSyStem will engage with and provide a focal point for the European stem cell research

community. The targeted collaborations within the EuroSyStem research project will be augmented by federating European research excellence in different tissues and organisms. We will organise annual symposia, training workshops, summer schools, networking and research opportunities to promote a flourishing basic stem cell research community. This network will foster interaction and synergy, accelerating progress to a deeper and more comprehensive understanding of stem cell properties. In parallel EuroSyStem will develop WEB resources, educational and outreach materials for scientists and the lay community.

ESTOOLS (coordinator Partner 6 – Peter Andrews)

The pluripotent nature of human embryonic stem (hES) cells presents unprecedented opportunities for studying human cellular differentiation and pathogenesis. Furthermore, hES cells offer a new resource for cellular transplantation in human degenerative disease and a powerful platform for pharmaceutical and toxicology screening. The promise of hES cells rests largely on achieving two things: (i) unlimited expansion in stem cell numbers without genetic or epigenetic compromise; (ii) directing differentiation with absolute phenotypic fidelity. Delivery of these twin objectives entails full understanding of the mechanisms that control the choices between proliferation and self renewal on the one hand, and apoptosis and commitment to differentiation on the other. Genetic intervention will be a central tool in delineating the molecular circuitry of hES cells. The goal of *ESTOOLS* is to develop and implement the necessary tools to elucidate the genetic and molecular networks that control the self renewal, commitment and terminal differentiation of hES cells. Neural commitment provides a paradigm for understanding the mechanisms by which ES cells choose between self renewal and lineage commitment. Furthermore, neuronal and glial differentiation of hES cells offer major new experimental avenues for cellular neurobiology and pathogenesis, with the potential for application in pharmaceutical and toxicological screening and cell replacement therapies. *ESTOOLS* draws together a team of high quality researchers with complementary expertise in mouse ES cell systems, hES cell culture, epigenetics, neurodevelopment, and a range of genetic modification technologies. *ESTOOLS* will create a range of training opportunities and dissemination vehicles to transfer knowledge and experience within the European Research Area.