

出國報告（出國類別：開會）

國際幹細胞會議心得報告

服務機關：國防醫學院

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摘 要

本次前往加拿大多倫多參加國際幹細胞會議，為期民國一百年六月十四日至一百年六月二一日，共八天。扣除前後三天搭飛機以及出入境時間，會議總共五天。第一天到達加拿大即坐巴士前往旅社，隔天一早到會議舉辦地辦理報告。一切過程都還順利。整個會議認識很多在幹細胞領域傑出的研究員以及學生，其中不只是增進英文聽力，對於實驗過程與想法都有很多的學習。過程中不只是學習到成功的研究員辛苦的過程，也了解到現在共同努力的學生們的研究方向。在這次的會議不只是學習到實驗方法與思考邏輯，也充分了解到幹細胞領域的走向與出入。另一方面也了解到此領域所遭遇的問題以及困難。經由這次的洗禮，讓我學到了很多，也刺激了我更加奮發向上的精神，也感謝讓我這次能夠順利前往的老師以及國防的長官們，謝謝。希望下次能夠有機會在參加會議，希望能夠在實驗方面有些成果能夠展示在海報瀏覽區。

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目 的

這次前往加拿大多倫多參加幹細胞國際會議，各國派出對於幹細胞領域相當有成就的研究員，分別對自己的研究做演講，也供大家討論的機會。另外，會議也有提供幹細胞領域相關研究的海報展示，讓我不只能夠認識一些幹細胞領域有貢獻的傳奇研究員，也經由海報的瀏覽，了解現今幹細胞領域的走向，對於我現在的研究方向有很大的幫助。

過 程

此次的幹細胞會議長達五天，扣除前後兩天的飛機行程。由於加拿大跟台灣有十二小時的時差，第一天到達加拿大已經是晚上十點半，直接前往旅社休息。第二天一大早到會場報到，領取資料跟名牌，就開始研究員的演講。這次的會議，上午的行程都是請成就非凡的研究員演講，針對期傑出的貢獻與研究，做了一翻介紹。經由如此的介紹，對於整個研究路程有了更新的見解。下午的行程則是更細分領域，請各個研究員演講與報告。通常會細分成三到四個小領域，會請教授或是博士生演講，這部分的演講就是針對比較特別的議題去探討，更類似小組會議的感覺。參加人員可以針對自己喜歡的議題去聽不同的演講。中午時段則是廠商介紹新儀器的演講，參加人員也是可以針對自己有興趣或是可能會使用到的儀器去選擇。由於中午與下午的時段都是較具選擇性的，所以參加人員也可以利用空檔時間去參觀海報。整個會議的行程很緊湊且充實，讓我學到了很多。

心得及建議

第一次能夠有機會前往國外去參加會議，真的非常感謝老師，以及國防長官同意我出國學習。到了國外，看到了許多在知名期刊上會出現的傑出研究員，能夠親耳聽見他們找到新知識的過程，以及證實新知的的方法，真的覺得很榮幸。不僅僅是如此，經由這樣的學習，讓我想到很多可以活用在自己的實驗上，真的覺得很開心。另外是針對特別議題的演講，看到很多年輕的學者，大概都是跟我差不多年紀的博士生，他們能夠在眾多聽眾的面前，頭頭是道的報告自己的研究內容與成果，並且接受大家的提問與建議，讓我深深的佩服。不只是可以學習他們的勇氣以及態度，更可以從他們的成果中學到很多邏輯推演的過程與方法。在這次的會議中，讓我清楚的知道，整個幹細胞領域的走向，現今科學家針對的方向，以及現今面對的問題。參加會議後，有一種知道自己研究不是孤獨的感覺，但同時也有競爭的感覺。參加完會議，不只讓我學習到很多，無論是實驗方面或是思考方面，同時也激勵我做實驗的鬥志，發現大家不只是實驗的夥伴也是競爭的對象，因此而能更努力的從事科學研究。到國外參加會議，也讓我多增加了一次接觸外國人的機會，讓我認知到英文對話的重要性，經過這次的出國開會，也讓我燃起更努力學習英文對話的鬥志。

這次會議可惜的地方就是沒有替海報展覽的部分多空出一些時間。下午的專題演講部分，通常都會有很多很想聽的演講，有時候這些演講也碰到在同一個時間，就必須要做出選擇，往往就是會有些遺憾。另外就是海報展覽的時間不夠長，通常下午都是聽專題演講，能夠看海報的時間就只有中午或是演講中間的空檔。展示的海報也是相當多，很難有時間能夠一一去瀏覽，這部分是比較遺憾的地方。希望未來的會議能夠多出一些時間讓我們有空檔能夠瀏覽海報。另外，希望台灣對於幹細胞研究有更多的參與，希望有一天幹細胞國際會議能夠在台灣舉行，提升台灣的知名度。

附 件

會議行程表

Detailed Schedule at a Glance

Tuesday, June 14

2:00 – 6:00 p.m.

Meeting Orientation

Room

600 Level,
near Registration

Abstract Page #

Wednesday, June 15

7:30 a.m. – 5:00 p.m.

Meeting Orientation

600 Level,
near Registration

8:30 a.m. – 12:30 p.m.

Industry Wednesday Symposia

BD Biosciences

How Flow Cytometry in Combination with Optimized Cell Culture Environments Can Enable the Stem Cell Workflow — from Isolation and Expansion to Analysis and Production, from Basic Research to Large-Scale Cell Processing

700 Level – 701 AB

Lonza Walkersville, Inc.

Novel Stem Cell Tools: Applications in Research, Drug Discovery and Cell Therapy

700 Level – 718A

Thermo Scientific

Practical Applications of Stem Cells and Stem Cell Technologies

700 Level – 718B

9:00 a.m. – 12:30 p.m.

Focus Sessions

ISSCR Ethics and Public Policy Committee

Ethics for Researchers at the Frontiers of Science—
the Case of Stem Cell Research

700 Level – 716B

Mount Sinai School of Medicine

Governance/Management/Policies of Human ESC/iPSC
Shared Resource Facilities

700 Level – 714A

Stem Cell Network

An Informed Society—How to Participate in Public Science
Education and Why it Matters

700 Level – 714B

University Health Network - Toronto, Cell Stem Cell and the ISSCR

Scientific Legacy: a Symposium to Honor Ernest McCulloch

700 Level – 717 AB

1:00 – 3:30 p.m.

**Presidential Symposium: Stem Cell Biology and the Prospects for
Regenerative Medicine: Past, Present and Future**

Supported by COSAT - Johnson & Johnson

Chair: Elaine Fuchs

800 Level
Plenary Halls F & G

1:00 – 1:20 p.m.

Welcomes & State of the Society Address, ISSCR President Elaine Fuchs

1:20 – 1:30 p.m.

Presentation of the ISSCR Public Service Award to Robert Klein, Chairman,
Independent Citizens' Oversight Committee, The California Institute for Regenerative Medicine (CIRM)

1:30 – 2:00 p.m.

Janet Rossant, *Hospital for Sick Children, Canada*
FROM TILL AND MCCULLOCH TO IPS CELLS — THE IMPORTANCE OF FUNCTIONAL ASSAYS

59

2:00 – 2:30 p.m.

George Q. Daley, *Children's Hospital Boston, USA*
DIRECTING AND REDIRECTING CELL FATES

59

2:30 – 3:00 p.m.

Keynote Address: Robert S. Langer, Massachusetts Institute of Technology, USA
REGENERATIVE MEDICINE: TISSUE ENGINEERING, BIOMATERIALS AND CONTROLLED DRUG DELIVERY

59

3:00 – 3:30 p.m.

Irving L. Weissman, *Stanford University School of Medicine, USA*
TITLE TBD

59

3:00 – 8:00 p.m.

Exhibits Open

800 Level – Exhibit Halls D & E

3:30 – 4:00 p.m.

All Posters Put On Display

Exhibit Halls D & E

3:30 – 4:15 p.m.

Refreshment Break

Exhibit Halls D & E

4:00 – 8:00 p.m.

Posters Open for Viewing

Exhibit Halls D & E

Detailed Schedule at a Glance

Wednesday, June 15 (continued)

		Room	Abstract Page #
4:15 – 6:30 p.m.	Plenary II: Totipotency and Germline Development Chair: Haifan Lin	800 Level – Plenary Halls F & G	
4:16 – 4:41 p.m.	Ruth Lehmann, <i>HHMI/Skirball Institute, USA</i> PROTECTING THE GERMLINE THROUGH SILENCING		
4:42 – 5:07 p.m.	Azim Surani, <i>Wellcome Trust & Cancer Research UK Gordon Institute, United Kingdom</i> THE RELATIONSHIP BETWEEN SPECIFICATION OF GERM CELLS AND REGULATION OF PLURIPOTENCY		59
5:08 – 5:33 p.m.	Hans Schoeler, <i>Max Planck Institute, Germany</i> INDUCTION OF PLURIPOTENCY IN GERMLINE AND SOMATIC CELLS		60
5:34 – 5:59 p.m.	Shoshei Yoshida, <i>National Institute for Basic Biology, Japan</i> SPERM STEM CELLS IN THE MOUSE TESTIS		60
6:00 – 6:30 p.m.	Presentation of the Outstanding Young Investigator Award Robert Blelloch, <i>University of California, San Francisco, USA</i> MICRORNAs TO PATHWAYS IN STEM CELL FATE DECISIONS		60
6:30 – 8:00 p.m.	Opening Reception <i>Supported by the McEwen Centre for Regenerative Medicine</i>	800 Level – Exhibit Halls D & E	
8:00 – 9:30 p.m.	Junior Investigator Career Panel <i>Supported by Stemgent</i> Strategies for Success: Making the Most of Funding Opportunities	Fairmont Royal York Imperial Room	

Thursday, June 16

8:30 – 9:30 a.m.	Morning Coffee	800 Level – Plenary Hall Foyer	
9:00 – 11:30 a.m.	Plenary III: Tissue Stem Cell Origins <i>Supported by Lieber Institute for Brain Development</i> Chair: Margaret Buckingham	800 Level – Plenary Halls F & G	
9:01 – 9:26 a.m.	Marianne Bronner, <i>California Institute of Technology, USA</i> SPECIFICATION AND MAINTENANCE OF NEURAL CREST CELL FATE		61
9:27 – 9:52 a.m.	Shin-ichi Nishikawa, <i>RIKEN Center for Developmental Biology, Japan</i> DEVELOPMENTAL PROCESS OF HEMATOPOIETIC STEM CELL EXPLAINED		61
9:53 – 10:18 a.m.	Michael A. Rudnicki, <i>Ottawa Health Research Institute, Canada</i> WNT SIGNALLING AND THE REGULATION OF MUSCLE STEM CELL FUNCTION		61
10:19 – 10:44 a.m.	Elaine Dzierzak, <i>Erasmus Stem Cell Institute, Netherlands</i> ENDOTHELIAL ORIGINS OF HEMATOPOIETIC STEM CELLS		61
10:45 – 11:10 a.m.	Hans C. Clevers, <i>Hubrecht Institute, Netherlands</i> LGR5 STEM CELLS IN SELF-RENEWAL AND CANCER		62
11:10 – 11:25 a.m.	Poster Teasers		
11:00 a.m. – 8:00 p.m.	Exhibits and Posters Open	800 Level – Exhibit Halls D & E	
11:30 a.m. – 1:30 p.m.	Lunch on your own Lunch available for purchase in the Exhibit Hall		
11:45 a.m. – 1:15 p.m.	Meet the Experts Lunch (Pre-registration required)	700 Level – 713 AB & 715 AB	
11:45 a.m. – 12:15 p.m.	Innovation Showcases		
	Scottish Development International Innovation in Scotland: Novel Stem Cell Tools and Technologies Presenters: David C. Hay, Verna McEriane, Jo Mountford	700 Level – 718 AB	94
	DVS Sciences Inc. Multiparametric Analysis with Mass Cytometry Presenters: Dmitry Bandura, Olga Ornatsky	700 Level – 716 AB	94
	Coming Incorporated Use of a Novel Synthetic Surface for the Derivation, Proliferation and Differentiation of IPS Cells and their Progeny Presenter: Michael J. Young	700 Level – 714 AB	94

Detailed Schedule at a Glance

Thursday, June 16 (continued)

	Room	Abstract Page #
11:45 a.m. – 12:15 p.m. Innovation Showcases (continued)		
STEMCELL Technologies Inc. STEMdiff™ APEL™, a Defined Animal Product Free Medium for the Growth Factor Directed Differentiation of Pluripotent Stem Cells Presenter: Elizabeth Ng	700 Level – 701 AB	94
BD Biosciences Integrated Solutions for the Expansion and Analysis of Human Mesenchymal Stem Cells Presenter: Abel Hastings	800 Level – 801 AB	94
12:30 – 1:00 p.m. Innovation Showcases		
ATCC iPS Cell Repository for Human Tissue and Disease Models Presenter: Will Rust	700 Level – 718 AB	95
Stemgent Reproducible Derivation of Integration-Free Human iPS Cells using mRNA Presenter: Brad Hamilton	700 Level – 716 AB	95
BD Biosciences Isolation of Single Cells from SP ³ Sub-populations by Flow Cytometry for Downstream Single Cell Gene Expression Profiling Presenter: Gil Reinin	700 Level – 714 AB	95
Union Biometrica Inc. Large Particle Flow Cytometry for Cells and Cell Clusters in Stem Cell Research Presenter: Rock Pulak	700 Level – 701 AB	94
Molecular Devices Inc. Induced Pluripotent Stem Cells for Research, Drug Screening and Toxicity Testing Presenter: Jayne Hesley	800 Level – 801 AB	94
1:30 – 3:15 p.m. Concurrent Session I		
Track A – Human iPS and Embryonic Stem Cells Supported by <i>Development</i> Co-Chairs: Konrad Hochedlinger and Duanqing Pei	700 Level – 718 AB	
1:32 – 1:57 p.m.	Konrad Hochedlinger, <i>HHMI Harvard Medical School, USA</i> SOX2, STEM CELLS AND CELLULAR REPROGRAMMING	62
1:59 – 2:14 p.m.	Amy P. Wong, <i>Hospital for Sick Children, Canada</i> ESTABLISHMENT OF CFTR-EXPRESSING EPITHELIAL FROM PLURIPOTENT STEM CELLS	62
2:16 – 2:31 p.m.	Shannon M. Buckley, <i>Howard Hughes Medical Institute/NYU School of Medicine, USA</i> THE UBIQUITIN PROTEASOME SYSTEM REGULATES SELF RENEWAL AND DIFFERENTIATION OF MOUSE EMBRYONIC STEM CELLS	63
2:33 – 2:48 p.m.	Natalia Ivanova, <i>Yale University, USA</i> NANOG-OCT4-SOX2 REGULATORY MODULE IN HUMAN EMBRYONIC STEM CELLS	63
2:50 – 3:15 p.m.	Duanqing Pei, <i>Guangzhou Institute of Biomedicine & Health C.A.S., Peoples Republic of China</i> REPROGRAMMING UNDER OPTIMIZED CONDITIONS REVEALS A SHORTENED ROUTE TO PLURIPOTENCY	63
Track B – Stem Cells & Tissue Engineering Supported by <i>Ontario Stem Cell Initiative (OSCI)</i> Co-Chairs: Peter W. Zandstra and Laura E. Niklason		
1:32 – 1:57 p.m.	Peter W. Zandstra, <i>University of Toronto, McEwen Centre for Regenerative Medicine, University Health Network, Canada</i> TOWARDS AN INTEGRATED SUSPENSION-BASED PLURIPOTENT STEM CELL INDUCTION, EXPANSION AND DIRECTED DIFFERENTIATION PLATFORM	64
1:59 – 2:14 p.m.	Todd C. McDevitt, <i>Georgia Tech / Emory University, USA</i> ENGINEERING THE 3D MICROENVIRONMENT OF MULTI-CELLULAR PLURIPOTENT STEM CELL AGGREGATES FOR DIRECTED DIFFERENTIATION AND MORPHOGENESIS	64
2:16 – 2:31 p.m.	Hidetatsu Otani, <i>Osaka University Graduate School of Medicine, Japan</i> DIRECTED INDUCTION OF CHONDROGENIC CELLS FROM MURINE DERMAL FIBROBLAST CULTURE WITHOUT GOING THROUGH A PLURIPOTENT STEM CELL STATE	65

Detailed Schedule at a Glance

Thursday, June 16 (continued)

		Room	Abstract Page #
1:30 – 3:15 p.m.	Concurrent Session I (continued) Track B – Stem Cells & Tissue Engineering	700 Level – 716 AB	
2:33 – 2:48 p.m.	Donny Hanjawa-Putra, <i>Johns Hopkins University, USA</i> CONTROLLING MORPHOGENESIS OF ENDOTHELIAL PROGENITORS TO GENERATE FUNCTIONAL MICROVASCULATURE IN A SYNTHETIC MATRIX		65
2:50 – 3:15 p.m.	Laura E. Niklason, <i>Yale School of Engineering, USA</i> ENGINEERED LUNGS FROM BIO-SCAFFOLDS AND PULMONARY CELLS		65
	Track C – Neural Stem Cells <i>Supported by StemCells Inc.</i> Co-Chairs: Sally Temple and Ronald D. McKay	700 Level – 714 AB	
1:32 – 1:57 p.m.	Sally Temple, <i>New York Neural Stem Cell Institute, USA</i> ENVIRONMENTAL FACTORS REGULATING NEURAL STEM CELL LINEAGE PROGRESSION		66
1:59 – 2:14 p.m.	Alysson R. Muotri, <i>University of California, San Diego, USA</i> SYNAPTIC DEFECTS IN HUMAN NEURONS DERIVED FROM AUTISM SPECTRUM DISORDERS PATIENTS		66
2:16 – 2:31 p.m.	Tzvi Aviv, <i>Hospital for Sick Children Toronto, Canada</i> COMPARATIVE FUNCTIONAL GENOMIC RNAi SCREEN OF EMBRYONIC AND NEOPLASTIC NEURAL STEM CELLS		66
2:33 – 2:48 p.m.	Xiaoqun Wang, <i>University of California, San Francisco, USA</i> PEERING INTO STEM CELLS IN LIVE BRAIN: A NEW SUBTYPE OF NEUROGENIC PROGENITOR IN MOUSE NEOCORTEX		66
2:50 – 3:15 p.m.	Ronald D. McKay, <i>Lieber Institute, USA</i> A TRANSCRIPTIONAL MECHANISM LINKING SOX2 AND PRAHOX GENES IN ADULT TISSUES		67
	Track D – Stem Cells and Regeneration <i>Supported by The Hospital for Sick Children, Research Institute</i> Co-Chairs: Freda Miller and Ely Tanaka	700 Level – 701 AB	
1:32 – 1:57 p.m.	Freda Miller, <i>Hospital for Sick Children, University of Toronto, Canada</i> DERMAL STEM CELLS: FROM THE SKIN TO THE SPINAL CORD		67
1:59 – 2:14 p.m.	Kosta Pajcini, <i>Stanford University, USA</i> A NOVEL APPROACH TO REGENERATIVE MEDICINE: REVERSION OF THE POSTMITOTIC STATE BY TRANSIENT DUAL KNOCKDOWN OF TUMOR SUPPRESSORS		67
2:16 – 2:31 p.m.	Takayuki Tanaka, <i>Kyoto University, Japan</i> DISEASE MODELING WITH INDUCED PLURIPOTENT STEM CELLS REVEALS THE PATHOGENESIS OF SOMATIC MOSAICISM IN AN NLRP3-DRIVEN AUTOINFLAMMATORY SYNDROME		67
2:33 – 2:48 p.m.	Salvador Aznar Benitah, <i>Center for Genomic Research (CRG), Spain</i> REGULATION OF MOUSE EPIDERMAL STEM CELLS NICHE HETEROGENEITY BY A MOLECULAR CLOCK		68
2:50 – 3:15 p.m.	Ely Tanaka, <i>Max Planck Institute of Molecular Cell Biology and Genetics, DFG Research Center for Regenerative Therapies, Technical University of Dresden, Germany</i> APPLYING REGENERATIVE CONCEPTS FOR THE CNS FROM THE SALAMANDER TO MAMMALIAN NEURAL STEM CELLS		68
	Track E – Stem Cell Signaling Co-Chairs: Emi Nishimura and Daniela Drummond-Barbosa	800 Level – 801 AB	
1:32 – 1:57 p.m.	Emi Nishimura, <i>Tokyo Medical and Dental University, Japan</i> HAIR FOLLICLE STEM CELL PROVIDE A FUNCTIONAL NICHE FOR MELANOCYTE STEM CELLS		68

Detailed Schedule at a Glance

Thursday, June 16 (continued)

		Room	Abstract Page #
	Track E – Stem Cell Signaling (continued)	800 Level – 801 AB	
1:59 – 2:14 p.m.	Eli R. Zunder, <i>Stanford University, USA</i> HIGH CONTENT, SINGLE CELL ANALYSIS OF EMBRYONIC STEM CELL DIFFERENTIATION BY MASS CYTOMETRY		69
2:16 – 2:31 p.m.	Joseph R. Kim, <i>University of Wisconsin Madison, USA</i> TAILORED SYNTHETIC SURFACES TO CONTROL HUMAN PLURIPOTENT STEM CELL FATE		69
2:33 – 2:48 p.m.	Anthony B. Mak, <i>University of Toronto, Canada</i> THE CANCER STEM CELL MARKER CD133 IS REGULATED BY HISTONE DEACETYLASE 6 AND FUNCTIONS TO STABILIZE BETA-CATENIN IN WNT SIGNALING FOR SUPPRESSION OF CANCER CELL DIFFERENTIATION		69
2:50 – 3:15 p.m.	Daniela Drummond-Barbosa, <i>Johns Hopkins Bloomberg School of Public Health, USA</i> CONTROL OF STEM CELLS BY DIET AND SYSTEMIC FACTORS IN THE <i>DROSOPHILA</i> OVARY		70
3:15 – 4:00 p.m.	Refreshment Break	800 Level – Exhibit Halls D & E	
4:00 – 6:00 p.m.	Plenary IV: Stem Cells and Cancer – Biology and Drug Development Chair: David T. Scadden	800 Level – Plenary Halls F & G	
4:01 – 4:26 p.m.	Thea D. Tlsty, <i>University of California, San Francisco, USA</i> PHENOTYPIC PLASTICITY IN HUMAN SOMATIC CELLS		70
4:27 – 4:52 p.m.	Pier Paolo Di Fiore, <i>Istituto Europeo di Cultura, University of Milan, Italy</i> ENDOCYTOSIS STEM CELLS AND CANCER		70
4:53 – 5:18 p.m.	Michael Clarke, <i>Stanford University, USA</i> CLINICAL IMPLICATIONS OF EPIGENETIC REGULATORS OF SELF RENEWAL		71
5:19 – 5:54 p.m.	The Ernest McCulloch Memorial Lecture John E. Dick, <i>University Health Network, Canada</i> THE GENETIC DIVERSITY OF LEUKEMIA INITIATING CELLS OCCURS THROUGH A COMPLEX EVOLUTIONARY PROCESS		71
5:55 – 6:10 p.m.	Poster Teasers		
6:10 – 8:00 p.m.	Poster Presentation/Exhibit Reception	800 Level – Exhibit Halls D & E	
9:00 p.m. – 12:00 a.m.	Junior Investigator Night Club Party <i>Supported by Stemgent</i>		

Friday, June 17

8:30 – 9:30 a.m.	Morning Coffee	800 Level – Plenary Hall Foyer	
9:00 – 11:30 a.m.	Plenary V: Reprogramming and Fate Conversion <i>Supported by The New York Stem Cell Foundation (NYSCF)</i> Chair: Gordon M. Keller	800 Level – Plenary Halls F & G	
9:01 – 9:26 a.m.	Shinya Yamanaka, <i>Center for IPS Cell Research & Application, Japan</i> INDUCTION OF PLURIPOTENCY BY DEFINED FACTORS		71
9:27 – 9:52 a.m.	John Gurdon, <i>The Gurdon Institute, United Kingdom</i> THE DIRECT REPROGRAMMING OF SOMATIC CELL NUCLEI TO AN EGG OR OOCYTE PATTERN OF GENE EXPRESSION		72
9:53 – 10:18 a.m.	Thomas Graf, <i>Center for Genomic Regulation, CRC, Spain</i> TET2 PROMOTES C/EBPA-INDUCED PRE-B CELL TRANSDIFFERENTIATION BY DE REPRESSING MACROPHAGE GENES		72
10:19 – 10:44 a.m.	Andras Nagy, <i>Mount Sinai Hospital, Canada</i> TRANSPOSON-MEDIATED REPROGRAMMING PROVIDES A POWERFUL TOOL FOR UNDERSTANDING SOMATIC CELL REPROGRAMMING TO PLURIPOTENCY		72
10:45 – 11:10 a.m.	Rudolf Jaenisch, <i>Whitehead Institute for Biomedical Research, USA</i> STEM CELLS, PLURIPOTENCY AND NUCLEAR REPROGRAMMING		73
11:10 – 11:25 a.m.	Poster Teasers		
11:00 a.m. – 8:00 p.m.	Exhibits and Posters Open	800 Level – Exhibit Halls D & E	

Friday, June 17 (continued)

		Room	Abstract Page #
11:30 a.m. – 1:30 p.m.	Lunch on your own Lunch available for purchase in the Exhibit Hall		
11:45 a.m. – 1:15 p.m.	Meet the Experts Lunch (Pre-registration required)	700 Level – 713 AB & 715 AB	
11:45 a.m. – 12:15 p.m.	Innovation Showcases		
	BD Biosciences	700 Level – 718 AB	96
	Multiparameter Flow Cytometry and Biomaging: Tools for Identifying Unique Immunophenotypes to Isolate and Analyze Sub-populations of Stem Cells and their Derivatives Presenter: Christian Carson		
	Fluidigm	700 Level – 716 AB	96
	Isolation of Mouse Hematopoietic Stem Cell Side Populations Using SP ³ and Post-Sort Confirmation Using Single-Cell Expression Presenters: Ken Livak and Alain Mir		
	Miltenyi Biotec GmbH	700 Level – 714 AB	95
	New Techniques to Control Pluripotent Stem Cell Differentiation Presenter: Andreas Bosio		
	Beckman Coulter Inc.	700 Level – 701 AB	95
	Multiplex Gene-Expression Assay for Human Induced Pluripotent Stem Cells (iPSCs) Using GexP Genetic Analysis System Presenter: Bee-Na Lee		
	STEMCELL Technologies Inc.	800 Level – 801 AB	95
	StemAdhere™: A Defined and Entirely Human Substrate for the Culture of hESCs and hiPSCs Presenter: Stephen A. Duncan		
12:30 – 1:00 p.m.	Innovation Showcases		
	BD Biosciences	700 Level – 718 AB	97
	Multiparameter Flow Cytometry: Tools for Isolating Pluripotent Stem Cells and Analyzing Endoderm, Ectoderm and Mesoderm Lineages Presenter: Nil Emre		
	Stemgent	700 Level – 716 AB	96
	A Highly Efficient RNA Transfection Reagent for the Manipulation of Cell Fate Presenter: Kerry P. Mahon		
	Miltenyi Biotec GmbH	700 Level – 714 AB	96
	Integrated Cell-Processing Device for Automated Manufacturing of GMP-Compliant Stem Cell Products Presenter: Stefan Miltenyi		
	Sigma Life Science	700 Level – 701 AB	96
	A Leading Global Stem Cell Research and Preclinical R&D Partner Presenter: John Listello		
	R&D Systems Inc.	800 Level – 801 AB	96
	Ex Vivo Expansion of Stem/Progenitor Cells Using Defined, Serum-Free Systems Presenter: Jessie H.-T. Ni		
1:30 – 3:15 p.m.	Concurrent Session II Track A – Hematopoietic Stem Cells	700 Level – 718 AB	
	Co-Chairs: Tannishtha Reya and Andreas Trumpp		
1:32 – 1:57 p.m.	Tannishtha Reya, <i>University of California, San Diego, USA</i> DEVELOPMENTAL MECHANISMS IN STEM CELLS AND CANCER		73
1:59 – 2:14 p.m.	Momoko Yoshimoto, <i>Indiana University School of Medicine, USA</i> MULTI-POTENT HEMATOPOIETIC PROGENITORS ARISE AT THE EXTRA-EMBRYONIC YOLK SAC PRIOR TO HEMATOPOIETIC STEM CELL EMERGENCE IN THE MOUSE EMBRYO		73
2:16 – 2:31 p.m.	Trista E. North, <i>Harvard Medical School, USA</i> METABOLISM-INDUCED REACTIVE OXYGEN SPECIES (ROS) AND HIF1 α STIMULATION CONTROL THE INDUCTION AND EXPANSION OF HEMATOPOIETIC STEM CELLS		74
2:33 – 2:48 p.m.	Rong Lu, <i>Stanford University, USA</i> TRACKING MURINE HEMATOPOIETIC STEM CELL DIFFERENTIATION IN VIVO WITH SINGLE CELL PRECISION: NEW INSIGHTS INTO THE CLONAL SUCCESSION VERSUS CLONAL STABILITY DEBATE		74

Friday, June 17 (continued)

		Room	Abstract Page #
1:30 – 3:15 p.m.	Concurrent Session II (continued)	700 Level – 718 AB	
2:50 – 3:15 p.m.	Andreas Trumpp, <i>Deutsches Krebsforschungszentrum (DKFZ), Germany</i> STRESS INDUCED ACTIVATION OF HSCS		74
	Track B – Stem Cells in Non-Mammalian Models	700 Level – 716 AB	
	Co-Chairs: Debbie Yelon and Phillip Newmark		
1:32 – 1:57 p.m.	Debbie Yelon, <i>University of California, San Diego, USA</i> DEFINITION AND DYNAMICS OF THE CARDIAC PROGENITOR POOL IN ZEBRAFISH		75
1:59 – 2:14 p.m.	Ricardo A. Rossello, <i>Duke University, HHMI, USA</i> MAMMALIAN GENES INDUCE IPS-LIKE CELLS IN NON-MAMMALIAN SPECIES		75
2:16 – 2:31 p.m.	Dongdong Ma, <i>Brigham and Women's Hospital, USA</i> THE EPIGENETIC REGULATION OF RENAL STEM CELL NUMBER IN ZEBRAFISH		75
2:33 – 2:48 p.m.	Owen J. Tamplin, <i>Children's Hospital Boston, USA</i> TRAFFICKING OF ZEBRAFISH HEMATOPOIETIC STEM CELLS DURING EMBRYONIC DEVELOPMENT		76
2:50 – 3:15 p.m.	Phillip Newmark, <i>University of Illinois at Urbana-Champaign, USA</i> INTESTINAL RENEWAL AND REGENERATION IN THE PLANARIAN <i>SCHMIDTEA MEDITERRANEA</i>		76
	Track C – Stem Cell Asymmetry	700 Level – 714 AB	
	Co-Chairs: Juergen Knoblich and Wieland Huttner		
1:32 – 1:57 p.m.	Juergen Knoblich, <i>IMBA - Institute of Molecular Biotechnology, Austria</i> ASYMMETRIC CELL DIVISION AND TUMORIGENESIS IN NEURAL STEM CELL LINEAGES		77
1:59 – 2:14 p.m.	Ryohichi Sugimura, <i>Stowers Institute, USA</i> A ROLE OF NON-CANONICAL WNT SIGNALING IN MAINTAINING HEMATOPOIETIC STEM CELLS		77
2:16 – 2:31 p.m.	Scott E. Williams, <i>The Rockefeller University, USA</i> ASYMMETRIC CELL DIVISIONS PROMOTE NOTCH-DEPENDENT EPIDERMAL DIFFERENTIATION		77
2:33 – 2:48 p.m.	Swathi Yadlapalli, <i>University of Michigan, USA</i> CHROMOSOME STRAND SEGREGATION DURING <i>DROSOPHILA</i> MALE GERMLINE STEM CELL DIVISION		77
2:50 – 3:15 p.m.	Wieland Huttner, <i>Max Planck Institute of Molecular Cell Biology and Genetics, Germany</i> NEURAL STEM AND PROGENITOR CELLS – A CELL BIOLOGICAL AND EVOLUTIONARY PERSPECTIVE		78
	Track D – Epithelial Stem Cells	700 Level – 701 AB	
	Co-Chairs: Fiona M. Watt and Valerie Horsley		
1:32 – 1:57 p.m.	Fiona M. Watt, <i>CRUK Cambridge Research Institute, Cambridge University, United Kingdom</i> RECIPROCAL SIGNALLING BETWEEN EPIDERMAL STEM CELLS AND CELLS IN THE NICHE		78
1:59 – 2:14 p.m.	Sarah Kozar, <i>Cambridge Research Institute, United Kingdom</i> MITOTIC CHRONOLOGIES IN MURINE GUT PROGENITORS		78
2:16 – 2:31 p.m.	Lixia Bai, <i>Fred Hutchinson Cancer Research, USA</i> IDENTIFICATION OF MAMMARY CANCER STEM CELLS USING TG11.5KB-GFP MICE		78
2:33 – 2:48 p.m.	Morvand Muhseni, <i>Harvard University/Children's Hospital</i> YAP1 ACTS DOWNSTREAM OF ALPHA-CATENIN TO CONTROL EPIDERMAL PROLIFERATION		79
2:50 – 3:15 p.m.	Valerie Horsley, <i>Yale Stem Cell Center, USA</i> ADIPOCYTES REGULATE THE SKIN STEM CELL NICHE		79
	Track E – Endodermal Stem Cells	800 Level – 801 AB	
	Co-Chairs: Carla Kim and Hans-Willem E. Snoeck		
1:32 – 1:57 p.m.	Carla Kim, <i>Children's Hospital Boston & Harvard Medical School, USA</i> STEM CELL APPROACHES TO DISSECT LUNG CANCER BIOLOGY		79
1:59 – 2:14 p.m.	Ahmed F. Hegab, <i>Mattel Children's Hospital UCLA, USA</i> A NOVEL STEM/PROGENITOR CELL POPULATION FROM MURINE TRACHEAL SUBMUCOSAL GLAND DUCTS WITH MULTIPOTENT REGENERATIVE POTENTIAL		80

Friday, June 17 (continued)

		Room	Abstract Page #
	Track E – Endodermal Stem Cells (continued)	800 Level – 801 AB	
2:16 – 2:31 p.m.	M. Cristina Nostro, <i>McEwen Centre for Regenerative Medicine, Canada</i> TGFβ1 FAMILY MEMBERS AND WNT SIGNALING REGULATE PANCREATIC SPECIFICATION OF HUMAN PLURIPOTENT STEM CELLS		80
2:33 – 2:48 p.m.	Valerie Gouon-Evans, <i>Mount Sinai School of Medicine, USA</i> THE ENDOTHELIAL CELL NICHE COORDINATES HEPATIC SPECIFICATION THROUGH DUAL REPRESSION OF WNT AND NOTCH SIGNALING		81
2:50 – 3:15 p.m.	Hans-Willem E. Snoeck, <i>Mount Sinai School of Medicine, USA</i> GENERATION OF ANTERIOR FOREGUT AND ITS DERIVATIVES FROM HUMAN PLURIPOTENT CELLS		81
3:15 – 4:00 p.m.	Refreshment Break	800 Level – Exhibit Halls D & E	
4:00 – 6:00 p.m.	Plenary VI: Stem Cell Metabolism and Aging Chair: Connie Eaves	800 Level – Plenary Halls F & G	
4:01 – 4:26 p.m.	Sean J. Morrison, <i>HHMI and University of Michigan Center for Stem Cell Biology, USA</i> SOX17 EXPRESSION CONFERS SELF-RENEWAL POTENTIAL AND FETAL STEM CELL CHARACTERISTICS UPON ADULT HEMATOPOIETIC PROGENITORS		81
4:27 – 4:52 p.m.	Inna Conboy, <i>University of California, Berkeley, USA</i> MODIFYING REGENERATIVE POTENTIAL AND CELL FATE WITHIN MYOGENIC LINEAGE		82
4:53 – 5:18 p.m.	Margaret A. Goodell, <i>Baylor College of Medicine, USA</i> EPIGENETIC REGULATION OF HEMATOPOIETIC STEM CELLS		82
5:19 – 5:44 p.m.	Amy Wagers, <i>Harvard University and Joslin Diabetes Center, USA</i> MODULATORS OF STEM CELL REGENERATIVE FUNCTION IN SKELETAL MUSCLE		82
5:45 – 6:00 p.m.	Poster Teasers		
6:00 – 8:00 p.m.	Poster Presentation/Exhibit Reception	800 Level – Exhibit Halls D & E	

Saturday, June 18

8:30 – 9:30 a.m.	Morning Coffee	800 Level – Plenary Hall Foyer	
9:00 – 11:30 a.m.	Plenary VII: Therapeutic Approaches to Stem Cells <i>Supported by Pfizer Neusentis and our Canadian colleagues</i> Chair: Daniel R. Marshak	800 Level – Plenary Halls F & G	
9:01 – 9:26 a.m.	Leonard I. Zon, <i>Children's Hospital and Dana-Farber Cancer Institute, HHMI, Harvard Stem Cell Institute, Harvard Medical School, USA</i> STIMULATION OF THE WNT-PGE2 PATHWAY TO IMPROVE HSC SELF-RENEWAL		82
9:27 – 9:52 a.m.	Kenneth R. Chien, <i>Massachusetts General Hospital, USA</i> DRIVING HEART PROGENITOR FATE <i>IN VIVO</i> WITH MODIFIED RNA		83
9:53 – 10:18 a.m.	Christopher K. Breuer, <i>Yale University School of Medicine, USA</i> THE DEVELOPMENT AND TRANSLATION OF THE TISSUE ENGINEERED VASCULAR GRAFT FROM THE BENCH TO THE BEDSIDE AND BACK AGAIN		83
10:19 – 10:44 a.m.	Michele De Luca, <i>University of Modena and Reggio Emilia, Italy</i> LIMBAL STEM CELL THERAPY AND LONG-TERM CORNEAL REGENERATION		83
10:45 – 11:10	Sheng Ding, <i>Gladstone Institute of Cardiovascular Disease, USA</i> A CHEMICAL APPROACH TO CONTROLLING CELL FATE		84
11:11 – 11:26 a.m.	Charles Sabine, <i>Patient Advocate, UK</i>		
11:00 a.m. – 4:00 p.m.	Exhibits and Posters Open	800 Level – Exhibit Halls D & E	
11:30 a.m. – 1:30 p.m.	Lunch on your own Lunch available for purchase in the Exhibit Hall		

Saturday, June 18 (continued)

		Room	Abstract Page #
11:45 a.m. – 12:15 p.m. Innovation Showcases			
	Biological Industries Ltd NutnStem™ hESC/iPSC XF- The First Universal Low Protein Xeno Free Media to Culture Pluripotent Stem Cells Presenter: Michal Amit	700 Level – 716 AB	97
	Life Technologies Xeno-Free Derivation and Maintenance of Pluripotent Cell Lines Presenter: Jordan E. Pomeroy	700 Level – 714 AB	97
	EMD Millipore Advances in Reprogramming Efficiency and Culture of iPSC Cells Presenter: Yi Chu	700 Level – 701 AB	97
12:30 – 1:00 p.m. Innovation Showcases			
	Life Technologies Micro RNA and Epigenetic Regulation of Neural Stem Cell Differentiation Presenter: Ron Hart	700 Level – 714 AB	97
1:30 – 3:15 p.m. Concurrent Session III			
Track A – Cell Therapy			
Supported by F. Hoffman-La Roche Ltd Co-Chairs: Christine Mummery and Peter Coffey			
1:32 – 1:57 p.m.	Christine L. Mummery, <i>Leiden University Medical Center, Netherlands</i> CARDIOMYOCYTES FROM PLURIPOTENT STEM CELLS IN GENETIC CARDIAC DISEASE AND DRUG SAFETY PHARMACOLOGY		84
1:59 – 2:14 p.m.	Tea Soon Park, <i>Johns Hopkins School of Medicine, USA</i> NONVIRAL CORD BLOOD-DERIVED IPSC POSSESS AUGMENTED CAPACITIES FOR GENERATING FUNCTIONAL AND ENGRAFTABLE ANGIOBLASTS IN A RETINAL ISCHEMIA MODEL		84
2:16 – 2:31 p.m.	Armand Keating, <i>University Health Network, Canada</i> MESENCHYMAL STROMAL CELLS MEDIATE THE SWITCH TO ALTERNATIVELY ACTIVATED MONOCYTES/MACROPHAGES AFTER ACUTE MYOCARDIAL INFARCTION		85
2:33 – 2:48 p.m.	Chien-Wen Chen, <i>University of Pittsburgh, USA</i> THE PARACRINE MECHANISM OF ANTI-FIBROTIC AND ANTI-INFLAMMATORY EFFECTS OF HUMAN PERIVASCULAR STEM CELLS		85
2:50 – 3:15 p.m.	Peter Coffey, <i>University College London, UK</i> STEMMING VISION LOSS USING STEM CELLS - SEEING IS BELIEVING		86
Track B: Small Molecule Approach to Stem Cells			
Supported by Centre for Commercialization of Regenerative Medicine Co-Chairs: Tewis Bouwmeester and Alan Ezekowitz			
1:32 – 1:57 p.m.	Tewis Bouwmeester, <i>MIBR – Novartis Institutes for Biomedical Research, Novartis Pharma AG, Switzerland</i> TOWARDS IDENTIFYING FACTORS THAT CAN AID IN TISSUE REGENERATION	700 Level – 716 AB	86
1:59 – 2:14 p.m.	Justin K. Ichida, <i>Harvard Stem Cell Institute, USA</i> MECHANISTIC INSIGHTS INTO DEFINED-FACTOR REPROGRAMMING USING SMALL MOLECULES		86
2:16 – 2:31 p.m.	Garrett C. Heffner, <i>Children's Hospital Boston, USA</i> SOLUBLE FACTORS SPECIFY THE GENERATION OF HEMATOPOIETIC PROGENITORS WITH MULTILINEAGE ENGRAFTMENT POTENTIAL IN ADULT RECIPIENT MICE FROM MOUSE EMBRYONIC STEM CELLS		87
2:33 – 2:48 p.m.	Gabsang Lee, <i>Memorial Sloan-Kettering Hospital, USA</i> DISCOVERY OF POTENTIAL THERAPEUTIC COMPOUNDS FOR FAMILIAL DYSAUTONOMIA USING PATIENT-SPECIFIC AND SYMPTOM-RELEVANT IPSC DERIVED NEURAL CREST PRECURSORS		87
2:50 – 3:15 p.m.	Alan Ezekowitz, <i>Merck Research Laboratories, USA</i> STEM CELL THERAPEUTICS: WHEN WILL PROMISE BECOME PROFITS?		87

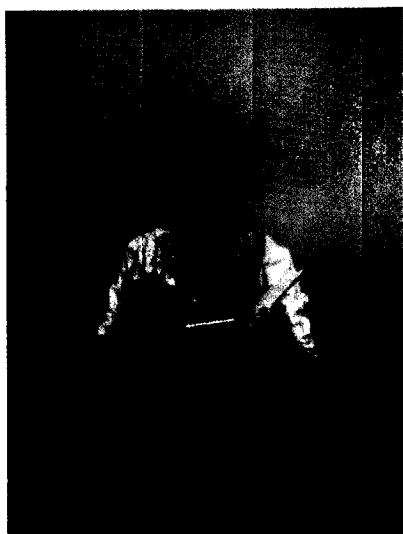
Saturday, June 18 (continued)

		Room	Abstract Page #
Track C: Genomic Integrity		700 Level – 714 AB	
Co-Chairs: Maria Blasco and Cedric Blanpain			
1:32 – 1:57 p.m.	Maria Blasco, <i>CNIO (Spanish National Cancer Research Centre), Spain</i> TELOMERE DYNAMICS AT THE INNER CELL MASS AND EMBRYONIC STEM (ES) CELLS INDICATE A LINK BETWEEN TELOMERE BIOLOGY AND PLURIPOTENCY		87
1:59 – 2:14 p.m.	Athurva Gore, <i>University of California, San Diego, USA</i> FUNCTIONAL CONSEQUENCES OF SOMATIC MUTATIONS IN HUMAN INDUCED PLURIPOTENT STEM CELLS		88
2:16 – 2:31 p.m.	Uri Ben-David, <i>The Hebrew University, Israel</i> GENE EXPRESSION PATTERNS REVEAL NOVEL TISSUE-SPECIFIC CHROMOSOMAL ABERRATIONS IN HUMAN PLURIPOTENT AND MULTIPOTENT STEM CELLS		88
2:33 – 2:48 p.m.	Michael Milyavsky, <i>Ontario Institute for Cancer Research, University Health Network, Canada</i> GENOME-WIDE FUNCTIONAL SCREEN FOR REGULATORS OF DNA DAMAGE RESPONSE IN HUMAN HEMATOPOIETIC STEM CELLS		88
2:50 – 3:15 p.m.	Cedric Blanpain, <i>IRIBHM, Université Libre de Bruxelles, Belgium</i> HAIR FOLLICLE STEM CELLS USE DIFFERENT MECHANISMS TO MEDIATE GENOME MAINTENANCE DEPENDING ON THEIR STAGES OF ONTOGENY		88
Track D: Epigenetic Programming of Stem Cells		700 Level – 701 AB	
Co-Chairs: Yi Zhang and Anjana Rao			
1:32 – 1:57 p.m.	Yi Zhang, <i>University of North Carolina, USA</i> ROLE OF TET PROTEINS IN DNA METHYLATION AND EMBRYONIC STEM CELL SELF-RENEWAL		89
1:59 – 2:14 p.m.	Andrew Xiao, <i>Yale School of Medicine, USA</i> HISTONE VARIANT PROTEIN H2A X PLAYS A NOVEL ROLE IN STEM CELLS		89
2:16 – 2:31 p.m.	Kevin Huang, <i>University of California, Los Angeles, USA</i> THE ROLE OF DNA METHYLATION IN REGULATING TRANSCRIPTOME IN MOUSE EMBRYONIC STEM CELLS		89
2:33 – 2:48 p.m.	Alessandra Giorgetti, <i>CMRB, Spain</i> CORD BLOOD-DERIVED NEURONS BY ECTOPIC EXPRESSION OF SOX2 AND CMYC		90
2:50 – 3:15 p.m.	Suneet Agarwal, <i>Children's Hospital Boston, USA</i> ROLE OF TET PROTEINS IN MOUSE EMBRYONIC STEM CELLS AND MYELOID TUMORIGENESIS		90
Track E – Cardiac & Muscle Stem Cells		800 Level – 801 AB	
Co-Chairs: Mark A. Krasnow and Didier Y. Stainier			
1:32 – 1:57 p.m.	Mark A. Krasnow, <i>HHMI, Stanford University, USA</i> RADIAL CONSTRUCTION OF AN ARTERIAL WALL		90
1:59 – 2:14 p.m.	Li Qian, <i>Gladstone Institutes, USA</i> IN VIVO REPROGRAMMING OF MURINE CARDIAC FIBROBLASTS INTO CARDIOMYOCYTES		91
2:16 – 2:31 p.m.	Foteini Mourkioti, <i>Stanford University, USA</i> ADULT STEM CELL EXHAUSTION DUE TO SHORT TELOMERES IN CHRONICALLY DAMAGED DYSTROPHIN-DEFICIENT MDX/MTR MICE MIMICS HUMAN DUCHENNE MUSCULAR DYSTROPHY		91
2:33 – 2:48 p.m.	Malte Tiburcy, <i>Georg-August-University Goettingen, Germany</i> ENGINEERED SKELETAL MUSCLE CONTAINS FUNCTIONAL SATELLITE CELL NICHES CAPABLE OF MUSCLE REGENERATION IN VITRO		91
2:50 – 3:15 p.m.	Didier Y. Stainier, <i>University of California, San Francisco, USA</i> PROGENITOR CELLS IN ZEBRAFISH ORGANOGENESIS		92
3:15 – 4:00 p.m.	Refreshment Break	800 Level – Exhibit Halls D & E	
4:00 p.m.	Posters Dismantle		

Saturday, June 18 (continued)

		Room	Abstract Page #
4:00 – 4:25 p.m.	ISSCR Business Meeting ISSCR Executive Director Report Nancy Witty ISSCR Treasurer Report Sally Tempie, <i>New York Neural Stem Cell Institute, USA</i> ISSCR Membership Q & A ISSCR Executive Committee President-Elect's Address Fred H. Gage, <i>Salk Institute for Biological Studies, USA</i>	800 Level – Plenary Halls F & G	
4:25 – 6:40 p.m.	Plenary VIII: Regulatory Networks of Stem Cells Chair: Fred H. Gage	800 Level – Plenary Halls F & G	
4:25 – 4:40 p.m.	Presentation of the McEwen Centre Award for Innovation Recipients: Shinya Yamanaka and Kazutoshi Takahashi		
4:41 – 5:06 p.m.	Richard A. Young, <i>Whitehead Institute for Biomed Research, USA</i> TRANSCRIPTIONAL CONTROL OF EMBRYONIC STEM CELLS		92
5:07 – 5:32 p.m.	Stuart H. Orkin, <i>Harvard Medical School, Dana-Farber Cancer Institute, USA</i> REGULATORY NETWORKS IN STEM CELLS AND CANCER		92
5:33 – 5:58 p.m.	Judy Lieberman, <i>The CBR Institute for Biomedical Research, USA</i> A GENOME-WIDE SIRNA SCREEN IDENTIFIES SELECTIVE INHIBITORS OF BASAL LIKE BREAST TUMOR INITIATING CELLS		92
5:59 – 6:34 p.m.	Anne McLaren Memorial Lecture Nicole M. Le Douarin, <i>Academie Des Sciences, France</i> THE NEURAL CREST: A PLURIPOTENT STRUCTURE OF THE VERTEBRATE EMBRYO		93
6:35 – 6:40	ISSCR President Elaine Fuchs Closing Remarks		
6:40 – 7:40 p.m.	Closing Reception Supported by <i>Harvard Stem Cell Institute, Massachusetts General Hospital Center for Regenerative Medicine, and Stem Cell Program, Children's Hospital Boston</i>	800 Level – Plenary Hall Foyer	

照片集



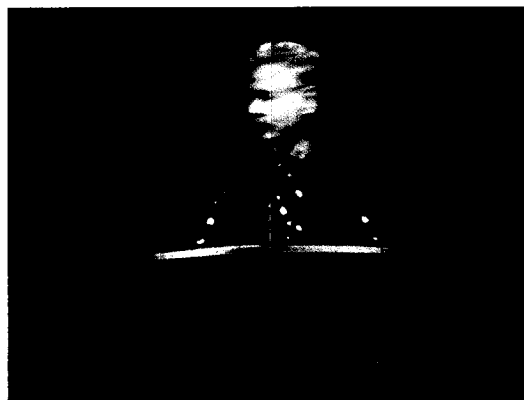
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同行夥伴 2-吳孟容



傳奇研究員 1-Shinya Yamanaka



傳奇研究員 2- Rudolf Jaenisch



會議會場



團體照