Development of the Sixth ISSCR Annual Meeting Program

The ISSCR annual meeting series is a cornerstone of the society. Developed by the Annual Meeting Program Committee, each meeting covers a broad spectrum of high-end stem cell research, drawing on the local environment and taking on its own individual feel and emphasis.

Greetings and welcome to the Sixth International Society for Stem Cell Research (ISSCR) Annual Meeting, in Philadelphia, PA, USA. This year's meeting promises to be as exciting as the previous meetings, but with its own flavor. I have been privileged to be the Chair of the Annual Meeting Program Committee for this year's meeting: a task that I took on with a high degree of expectation and interest. Successful assembly of the program would, of course, not have been possible without the enthusiastic participation of members of the Program Committee (Table 1), Dr. George Daley and the folks in the ISSCR administration, particularly, Michael Hagedorn and Nancy Witty. Michael's involvement, especially, ensured that everything was accomplished in a proper and timely manner (even though not all scientists are renowned for their abilities to rigorously adhere to deadlines).

One of the challenges that the Program Committee Chair faces is providing a general "flavor" for the meeting. This, in turn, allows the Chair to incorporate, as much as possible, his or her overall vision of the stem cell field, where the field is heading, and where the field should (or perhaps should not) be heading. As is clearly the case in an area of research as rapidly expanding as stem cells, it is not always possible to adequately cover all (or even most) of the important topics. My apologies to the many outstanding investigators who may feel that their research interests have not been sufficiently represented. This in no way reflects a lack of interest or appreciation on the part of the Program Committee. Please allow me to provide you with some aspects of my thinking as I first approached putting together this year's meeting program.

First, stem cell biology has emerged as a vital part of the much broader area of developmental biology. In fact, it is becoming clear that the development and physiological function of many tissues previously not considered among the classical stem cell systems involve stem cells. Therefore, we have dedicated two plenary sessions that together should stimulate further thinking along these lines. The meeting opens with an outstanding lineup of talks that will set a developmental biology context for the entire meeting. The importance of providing this context has also been pointed out by participants of previous ISSCR meetings. The second plenary session takes the somewhat opposite viewpoint: that is, it is focused on the most "mature," most intensively studied, and archetypical stem cell system, hematopoietic stem cells. Indeed, it is fair to say that most, if not all, properties now generally ascribed to stem cells were first defined in the hematopoietic system. Thus, it seemed reasonable to devote an entire session to this system, as a way to address what we really understand about the control of stem cell properties after five decades of research. In addition, hematopoietic stem cell transplantation is the basis for therapeutic intervention directed against numerous diseases. Therefore, the study of hematopoietic stem cells is a clear paradigm for what we all hope will be reflected in clinical applications for other stem cell systems. We hope also to give pause to those who see rapid development of more general stem cell-based transplantation therapies, as they consider the full extent of intensive research that has gone into understanding the hematopoietic system.

Table 1. 2008 ISSCR Annual Meeting Program Committee

Name	Affiliation
Ihor R. Lemischka, PhD (Chair)	Mount Sinai School of Medicine, USA
Hongkui Deng, PhD	Peking University, People's Republic of China
Francois Guillemot, PhD	National Institute of Medical Research, UK
Nicole M. Le Douarin, PhD	Academie Des Sciences, France
Warren S. Pear, MD PhD	University of Pennsylvania, USA
Hans Schoeler, PhD	Max Planck Institute, Germany
M. Celeste Simon, PhD	University of Pennsylvania School of Medicine, USA
Hans-Willem E. Snoeck, MD	Mount Sinai School of Medicine, USA
Toshio Suda, MD	Keio University, Japan
Sally Temple, PhD	Albany Medical College, USA
Mitchell Weiss, MD PhD	Children's Hospital of Philadelphia USA
Ex Officio	
George Daley, MD PhD (President)	Children's Hospital Boston, USA
Fiona M. Watt, DPhil (President-Elect)	Cancer Research-UK Cambridge Research Institute, UK

Second, a growing theme in the postgenomic era is that multidisciplinary approaches, often involving engineering disciplines and novel technologies, are most effective in arriving at a deep level of biological understanding. This is also the case for stem cell research. An effort has been made to present some of these approaches at the meeting, and we hope that this will stimulate participants to consider how these may apply to their own research. As one example, a new discipline called synthetic biology has suggested that cells can be programmed with artificial circuitry to promote defined cell-fate outcomes. This is introduced during this year's meeting in Concurrent Session 1, Novel Emerging Technologies.

Third, we have devoted significant attention to clinical translation of stem cell research, alongside the ethical issues that arise in conjunction with clinical applications. Explored both in a plenary session on clinical translation and integrated into concurrent sessions, we hope that this will provide a sense of how, when, and in what contexts stem cell research will begin to have a broad impact on clinical medicine. This theme merges very well with the expanding field of cancer stem cells, followed by adult stem cell physiology, also highlighted in plenary sessions.

Fourth, we have certainly not forgotten embryonic stem cells and their vast biological abilities and critical key properties. Finally, the issue of reprogramming of nonembryonic cells into entities with embryonic stem cell-like properties ends our roster of plenary sessions. A focus here is also on the epigenetics of stem cells. These novel technologies represent a true sea change in the field of stem cell research, and therefore it is fitting to close this year's meeting on this note.

All plenary sessions are supplemented with concurrent sessions to expand on the broad topics they introduce. We hope that the concurrent sessions, which include 49 speakers selected from the more than 1300 submitted abstracts, will provide the latest and greatest research results and stimulate much discussion. On a final note, this year's roster of speakers was also chosen with a genuine effort to include as many young investigators as possible and those who have not previously presented their research results at the ISSCR meeting. Along with the entire Program Committee, I am extremely excited about the content of the meeting. We certainly hope that you will find much of interest and much to stimulate your intellect.

Ihor R. Lemischka
Chair, Annual Meeting Program Committee, ISSCR
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