

## Cultivating a Robust Stem Cell Field

In so many ways the field is stronger than ever, with terrific progress in stem cell research and discovery that has led to advances in regenerative medicine. We see research moving toward the clinic at a greater rate, with new treatment approaches showing real promise. The last 15 years since the ISSCR's founding have laid a strong foundation for future years of exploration, discovery, and advances in medicine.

Opportunities for scientific exchange are critical and have never been more important. The ISSCR is committed to providing forums to share science, ideas, and new technologies and advances from around the world, not just within the research community but also with the many other stakeholders who support the development of new medicines. These include our annual meeting series and international symposia, this journal, our informational website “A Closer Look at Stem Cells,” and our communications and policy initiatives.

Great science and discovery is always at the center of what we do, and our meetings are a focal point for stem cell science worldwide. This year the ISSCR holds its 15<sup>th</sup> Annual Meeting June 14–17, 2017, in Boston, bringing together a rich diversity of researchers from different backgrounds and subject matter areas, to meet with one another, find new collaborations, adopt new approaches, and share excitement, opportunities, and concerns. A new job match program is also offered at the meeting to help connect job seekers with academic institutes, non-profit organizations, and companies looking to fill positions. We hope this will be a valuable service for trainees and others looking to transition in their careers.

As the field moves increasingly toward medical applications, the ISSCR is building out translationally and clinically focused programming designed for scientists and physicians interested in learning more about how stem cell therapies are developed and their progress into the clinic. At ISSCR 2017, in addition to highlighting clinical translation throughout the meeting, we are offering two pre-meeting educational programs: the “Workshop on Clinical Translation,” in its third year, with advice for completing an investigational new drug (IND) application to clinically test an experimental cellular therapy; and a “Clinical Advances in Stem Cell Research” program that will focus on three disease areas, with leaders exploring the current clinical landscape, advances in cell therapies, and how stem cell research is being applied in the clinic. Looking forward, we continue to strengthen our interface with translation, industry, and clinical implementation at the annual meeting and in other contexts.



Sally Temple, ISSCR President, 2016–2017

With its June 2017 issue, *Stem Cell Reports* enters its fifth year and also shows evidence of both the advancements in the field and the flourishing of the journal itself. The journal continues to exceed our expectations, settling firmly in the ranks of the top journals publishing cutting edge stem cell research and translation. This issue highlights progress across the breadth of stem cell research and its applications to medicine, from mechanistic insights gained through the study of model organisms to pre-clinical analysis of a beta cell replacement transplant approach. In the area of neuroscience, which is close to my heart, I am excited to call out a group of seven papers from Hsieh, Douvaras, Cho, Cowley, Okano, Gage, Schaffer, and colleagues (Brulet et al., 2017; Douvaras et al., 2017; Kim et al., 2017; Haenseler et al., 2017; Yasui et al., 2017; Santos et al., 2017; Rodrigues et al., 2017), reporting the derivation of glial cell types by direct reprogramming or differentiation from pluripotency. These articles describe resources and insights valuable in understanding and finding new approaches to treat



multiple pathologies of the central nervous system. We are also delighted to present in this issue Perspectives from ISSCR award winners Qi-Long Ying and Austin Smith (2016 McEwen Award for Innovation; [Ying and Smith, 2017](#)) and Leonard Zon (2016 Tobias Award Lecture; [Choudhuri et al., 2017](#)) describing the “art of capturing pluripotency” and using the zebrafish to study the regulation of hematopoietic stem cell self-renewal and migration, respectively.

Yet, while recognizing this momentum, we also see policy and regulatory issues on the horizon that may challenge our work. In the US, where I am based, as well as in many other countries, potential future budget cuts for basic and biomedical research are very real concerns. Questions about how to regulate stem cell products and tissues, and issues of marketing unproven stem cell treatments, are front and center in many areas of the world. And the cross-border collaborations and idea-sharing crucial to the global scientific enterprise may be undermined by pending changes in immigration policy in the US.

The ISSCR is addressing these issues on a variety of fronts as we continue to support our members and the field in advancing stem cell science. Principles that we enumerated in the “2016 Guidelines for Stem Cell Research and Clinical and Translation” ([ISSCR, 2016](#); [Daley et al., 2016](#)) are increasingly important, and we rely on them as we advocate for the integrity of the biomedical research enterprise, including review and oversight, replication, and accountability at each stage of research; rigorous pre-clinical data, clinical trials, and patient welfare; and transparency in our communications of progress and results. In 2017, the guidelines were translated into Chinese and Turkish (publication pending) by scientists in those countries who want to ensure that their colleagues, regulators, and other stakeholders in the field have easy access to these important guidelines.

The principles and recommendations in the guidelines are central to our policy and communications efforts, providing key messages that underlie outreach to the media, policy makers, and regulatory bodies. These efforts help ensure that the ISSCR is part of critical debates about stem cell research, how it is governed and regulated, and how those issues are presented in the press and to the public. The society’s informational website “A Closer Look at Stem Cells” (<http://www.closerlookatstemcells.org/>) continues to provide a valuable resource for those interested in knowing more about the science and for would-be consumers to learn more about what is known—and unknown—about stem cell therapies.

In March, Kaye Meier took over as the new ISSCR policy director and has been actively working with the Public Policy Committee to determine where and when to enter debates that affect our work and its translation to the clinic. She has brought to the organization strong policy back-

ground, having worked for many years in the US Senate. Kaye has already led efforts to address policy challenges and has cultivated relationships with other scientific organizations, advocacy and patient groups, and individuals around the world to share information and collaborate where our interests and concerns align.

Stem cell research and the ISSCR have undergone enormous growth over the past 15 years, as evidenced by the strength of basic research programs, industry, and clinical trials that are pioneering the field of regenerative medicine. As the ISSCR celebrates its milestone 15<sup>th</sup> anniversary, we ask for your help in actively voicing your support for the internationality of the field and for robust funding, fully justified by our successes. We also recognize and celebrate the valuable contributions each of us makes toward advancing knowledge and improving human health worldwide.

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