

An Interview with Marion Riggs on the Student Society for Stem Cell Research

Founder and Director, Student Society for Stem Cell Research



Marion Riggs, PhD

How did you first get interested in stem cell science and policy?

In 2003, in two courses, Cell Biology and Nonprofit Organizations & Civil Society, I was assigned writing on a controversial topic. I learned of powerful opposition against human embryonic stem cell research and the recent passage of the congressional Weldon-Stupak bill criminalizing somatic cell nuclear transfer (SCNT). This legislation was a knee-jerk reaction to the Raelian's announcing the birth of a human-cloned child. Passed in the U.S. House of Representatives, the legislation failed progression in the senate. I then became passionate about stem cell research and educating the public on its merits. Joining the Stem Cell Action Network as a founding advisory board member, I realized the need to organize the student community and started the Student Society for Stem Cell Research.

Briefly, what is the Student Society for Stem Cell Research (SSSCR)? What is the SSSCR's core mission?

Our core mission is value-driven, grounded in the roots and history of SSSCR. SSSCR was founded in 2003 with the first university-registered chapter at the University of South Florida. It was the height of the stem cell political opposition and the pro-cures movement in its infancy. Leaders such as Christopher Reeve, Don Reed, and Bernard Siegel were in the throes of preventing a global ban at the United Nations on therapeutic cloning. George Bush's presidential executive order and state legislation were restricting

and threatening the science at universities throughout the United States. Born from this period of political strife, the spirit of the pro-cures movement is instilled in our student society's endeavors.

SSSCR's objective is to enhance student education and career opportunities while fostering a social conscience based on the humanitarian cause underlying the field. SSSCR engages in public policy, teaching the importance of being good citizens of science to young researchers and student advocates. Any student can join the network to become connected and engaged in the field of regenerative medicine, and we are proud of our mantra that SSSCR creates "advocates for life." Our members carry the SSSCR experience forward into their careers, and, through SSSCR's education, careers, and humanitarian programs, we take our passion for stem cell research and educate the community on advances in medicine and the promise of cures.

How did SSSCR get started?

SSSCR started with a vision to connect students globally in order to promote a cooperative effort for advancing scientific research for cures. It began locally by handing out flyers and telling other students about the hope stem cell research offers to persons suffering severe afflictions. At the first SSSCR meeting, one student showed up. That one student was enough to hold a second meeting, where three students attended. From those initial meetings, we have continued to grow a membership spanning 3,500

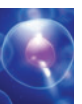
members and to launch over 35 university-registered SSSCR chapters. Students are passionate, effective advocates with a distinctive lens on the future. Our chapters serve as creative mini-think-tanks for propagating the pro-cures message. We encourage any student seeking to connect globally and to make an impact locally to start an SSSCR chapter at their university.

What have been some of SSSCR's most notable accomplishments since its inception?

Early on, SSSCR forged relationships with organizations, including Genetics Policy Institute (GPI), the California Institute for Regenerative Medicine (CIRM), and Stem



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Cell Action Network (SCAN). In 2012, SSSCR joined the Alliance for Regenerative Medicine (ARM). As a grassroots network, our efforts are amplifying. We have been in the media 58 times, including TV, radio, and print. In 2004, our 1st Annual Vigil for Christopher Reeve was covered by NBC news. In 2006, for our efforts supporting H.R. 810, the Stem Cell Research Enhancement Act, SSSCR was awarded the National Grassroots Advocacy Award by the Genetics Policy Institute at the Stem Cell Advocacy and Policy Summit in Stanford. In 2007, SSSCR associate director Laurel Barchas, in collaboration with CIRM, launched the ongoing California statewide Stem Cell Education and Outreach Program, where SSSCR chapters have delivered over 100 high school presentations on the science, ethics, and policy of stem cell research. In 2013, the Berkeley chapter of SSSCR organized the 1st Annual Berkeley Stem Cell Conference, which was supported by CIRM and Berkeley Stem Cell Center. The 2nd Annual Berkeley Stem Cell Conference taking place on October 4, 2014, is the only annually recurring student-organized conference in regenerative medicine of which I am aware.

You are one of the founding members of an initiative entitled the “Stem Cell Action Network.” Could you tell us the main focus of this initiative?

SCAN serves as an engine uniting the pro-cures community, providing a platform for patient advocacy groups to join and magnify the pro-cures message. SCAN has an extensive record of protecting and advancing stem cell research public policy. In 2004, SCAN and GPI led the charge at the United Nations with 25,000 faxes to prevent a global ban on SCNT, winning by a single vote. Through the “Portraits of Hope,” SCAN was one of the first organizations to put a collective face on the pro-cures community. One of my first and galvanizing experiences in our community was helping organize the First International Stem Cell Action Conference

(FISCA) in 2004. At FISCA, hundreds gathered to launch the first patient-organized event of the pro-cures movement. These efforts of SCAN were significant public education efforts aiding the advancement of pro-stem cell research bills through Congress during the mid-2000s. More recently, SCAN—now called the Stem Cell Action Coalition (SCAC)—submitted an amicus brief to the courts on *Sherley v. Sebelius*.

What are the benefits of joining the SSSCR and the “Stem Cell Action Coalition”?

By becoming a member of SSSCR and Stem Cell Action Coalition, you are plugging into the pro-cures community. SSSCR’s virtual network and chapter structure connects students and promotes leadership and career-building skills. SSSCR members have proceeded to work for GPI, ARM, and the National Academy of Science, and have been contracted by CIRM for educational projects. Other SSSCR members have proceeded to graduate research and medical school programs at prestigious universities. Stem Cell Action Coalition (SCAC) unites the grassroots community with more than 90 member organizations. This is incredibly important for the family and friends of a loved one impacted by a devastating condition that are holding onto hope and not wanting to go the distance alone. SCAC provides empowerment for which that hope can be translated into taking action. Collectively, our networks enable individuals and groups to be informed, to connect, and to engage in the pro-cures movement.

What impact has the “Stem Cell Action Network” and your role at SSSCR had on you?

FISCA was one of my first engagements with patients. To witness more than 300 persons coming from around the United States driven by the message of hope and committed to removing the political roadblocks to research for cures was personally transformative. These patients

sacrificed the hardship of travel knowing their efforts were not likely to improve their life, but for the purpose of fighting for the next generation of patients. A decade later, many of the FISCA conference attendees have since passed away, but their message and efforts should never be forgotten. SSSCR carries a remembrance for the advocates of the early days, such as Christopher Reeve, who championed the science. Since that 2004 FISCA conference, each year the World Stem Cell Summit continues to carry the torch of hope by bringing together patient advocates, scientists, doctors, lawyers, and industry professionals for sustaining the mandate for cures.

What do you attribute to the success of SSSCR, as well as any significant challenges?

It is incredibly fun to work with fellow students promoting stem cell education and awareness; however, SSSCR’s success is rooted in our core value of appreciating the humanitarian cause driving the field and the patient-centric perspective we embrace. The connection to the cause is not achieved in the classroom and lab alone, but is generated by interacting with patients and being a member of the pro-cures community. This is why our members’ annual attendance of the World Stem Cell Summit is so important to SSSCR. The members of SSSCR appreciate the cause and are thriving on the community connection driving the mandate for cures. There is optimism that financial support for our programs will continue to increase. As I conduct this interview, we landed our first corporate sponsor, Genetica DNA Laboratories, and recently SSSCR has been approached by two other companies considering sponsorship opportunities.

How do you see the future of the SSSCR? The “Stem Cell Action Coalition”?

There has never been a more important time to join the pro-cures community and





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to get connected through SSSCR and SCAC. H.R. 4494, The Regenerative Medicine Promotion Act of 2014, needs to be passed in Congress. The thin walled protection of President Obama's executive order means a lurking threat in each presidential election. Congress needs to codify the NIH guidelines on human embryonic stem cells. Flat funding of the NIH, in recent years, is causing a significant decrease in NIH grant approval rates, making it harder for scientists to maintain their stem cell research programs. The Dickey–Wicker amendment continues to pose significant problems for the field, and state-level

initiatives are significant in stopping bad legislation and promoting more funding. The stealth attack of *Sherley v. Sebelius* is a clear reminder of the staunch opposition to human embryonic stem cell research and the continued need for public education and advocacy.

The growth of SSSCR and SCAC is paralleling the expansion of the field and our increased capacity for social engagement. Advocates have so many tools at their disposal for education, advocacy, and fundraising campaigns. Now with social media and online video conferencing, we can visually meet each other and with a touch of a button have friends, family, and colleagues propagate our stem cell research update by scores of likes and shares. Our ability to turn ripples into waves is greater now than ever.

You recently received your PhD. Could you describe your research area?

In May 2014, I received my PhD in the Integrative Life Science Program at VCU, which has a focus on systems biology and understanding biological complexity. My dissertation work investigated aberrant stem cell biology and in particular genomic instability of human pluripotent stem cells. The appearance of chromosomally altered stem cells remains a challenge for academic research and clinical applications. My work concluded on the phenotypic validation of a gene that

improves the in vitro expansion of human pluripotent stem cells, without obvious tumorigenic signatures or the drawbacks from using ROCK inhibitors. Interestingly, this gene is overexpressed in trisomy 17 human pluripotent stem cells.

Could you tell us what the future holds for you?

Well, I wish I had a crystal ball, I'd do a lot less worrying...and be more financially secure. Currently, I am looking for a research position in academia or industry, and SSSCR will continue to grow under our peer-driven community model. Being part of a research team using induced pluripotent stem cells to advance the cellular understanding of any of the mental health disease indications is of particular interest to me.

Finally, what was the best advice you were given? What advice would you give to other scientists entering the field?

This is a very exciting time to begin a career in regenerative medicine. Get involved through service and help culture the stem cell research community. Being of service can be as simple as helping your lab mate with a protocol or sharing a reagent. Connect with the broader community and appreciate the lives that stem cell research is on the horizon of impacting and, of course, join SSSCR.

