

# WESLEYAN

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Hi, I'm Laura Grabel, Professor of Biology Wesleyan University and a stem cell researcher. I am here to discuss Bill #5042. My thanks to the legislature for adding two years of funding, but I do have some concerns with the Bill, which I will address. I was here more than 8 years ago to support the original legislation creating the Stem Cell Research Fund. At that point I was one of only two researchers in the state working on embryonic stem cells. Since then, in large part due to the Stem Cell Research Fund, the landscape for stem cell research in Connecticut has changed dramatically and we have become leaders in this promising area of medical research. Thanks to the participating institutions and funding from additional sources, we have leveraged the state's investment and built an infrastructure to support this work, with buildings, core facilities available to researchers across the state, and most importantly people. We have attracted leaders in the field to our state, and also built a Connecticut workforce, training undergraduates, graduate students, and postdoctoral fellows to work in this area, keeping them here, thanks to a stable funding environment. My own students have gone on to positions at the Health Center and at Yale. We have created a vibrant, cooperative research community that meets regularly to share our progress and identify our needs.

I want to tell you how the stem cell fund has supported our work at Wesleyan. Ten years ago we were studying how embryonic stem cells, amazing cells with the potential to become virtually any cell in the body, became neurons. Asking basic questions. Thanks to state funding, we were able to take this work in a clinical direction. With my collaborators at Wesleyan, Jan Naegele and Gloster Aaron, we are now investigating the use of embryonic stem cell-derived neural progenitors in transplantation therapies designed to treat temporal lobe epilepsy. The idea is that these cells can replace cells lost to seizures. I am proud to say we have made significant progress using mouse models of the disease. Our work was recently cited in a major review article entitled "GABAergic interneuron transplants to study development and treat disease" published in *Trends in Neuroscience*. Our work relies heavily on collaborations with The University of Connecticut Health Center that would not have been possible without the Stem Cell Research Fund.

So what are my concerns with the proposed legislation? This thriving infrastructure I have described was built around the stem cell theme. The Stem Cell Research Fund, while encouraging progress towards clinical application also supports basic research, an essential component in building a successful pipeline; the medical advances of tomorrow rely upon the basic research being done today. This is particularly true for a young field like stem cell biology. The descriptor "regenerative medicine" suggests an altered focus, one that may move us away from stem cell science and not take full advantage of what we already have in place. The Stem Cell Research Fund transformed stem cell research in Connecticut. The program has not been perfect. There are issues with its administration and this is a good point in time to pause and make appropriate corrections, but I would urge you to keep the stem cell focus. And of course, more than two years of extended funding would be great, providing a stable environment that assures folks that Connecticut is the place to do this work. Thank you.

Laura Grabel- Professor of Biology and Lauren B. Dachs Chair of Science and Society Wesleyan University; Vice President-elect Connecticut Academy of Science and Engineering

