

Testimony before the New Jersey State Senate Budget Committee

May 15, 2006

New Jersey Commission on Science and Technology

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Thank you for the opportunity to report to you on the work of the Commission on Science and Technology with our mission to promote technology-based economic development and job growth in New Jersey.

I particularly want to talk today about our Stem Cell Research program, our basic technology programming which has directly assisted over 500 companies this year, and our review of the technology economy in New Jersey and economic planning to grow our high-tech economy.

But first I want to remind you that the Commission on Science and Technology is not just me and my staff. It is an active board of successful entrepreneurs, business leaders and legislators who give of their time and expertise to help New Jersey develop programming and policies that will nurture and grow our technology economy.

Our Chairman, Dr. Don Drakeman, is the CEO of Medarex, the second largest biotech company in New Jersey. And he is one of several entrepreneurs on our board who have built up successful technology-based companies here in New Jersey. Any time that you want to address the issues facing the technology economy, our Commission members are ready to meet with you and share their experience and expertise in this area.

Over the past two years I have worked with this board to essentially recreate Commission programming. We now have programs that are more effective at building technology jobs using significantly less funding than the Commission had annually just a few years ago.

Stem Cell Research

Last summer, Senator Codey, with your help, decided to show the world that New Jersey is a leader in welcoming and supporting stem cell research. The Commission was asked to run New Jersey's Stem Cell Research Grant program. I am proud to say that the Commission wasted no time in implementing this program. It was announced on August 2nd, on December 16th the Commission awarded over \$5 million to 17 research groups in New Jersey, and checks were delivered to researchers within a few weeks after that. In less than six months after the announcement, we had researchers working, making New Jersey the first state to award public funds for human embryonic stem cell research.

I am also proud to say that this was a thorough process with a full scientific review by national stem cell research experts outside of New Jersey and a full ethics review by nationally renowned bioethics experts. We were able to avoid legal issues by using an existing Commission with full disclosure. I am pleased to report that every other state which is considering a stem cell research program, including California, has called our office to ask how we put together and ran our program.

New Jersey is now a leader in supporting stem cell research. In this very new field, we have the opportunity to continue to be a leader. Unfortunately under the current budget proposal, the Commission does not expect to be able to award Stem Cell Research Grants in FY 07. However, companies pursuing stem cell research have already benefited from our other programming for technology companies. They will continue to be eligible for our programs.

To really maintain New Jersey's position as a leader in stem cell research, I urge you to support the legislation before you to construct the Stem Cell Institute of New Jersey.

Technology-based Economic Development Programming

The Commission's basic programming to support technology-based economic development, which we have recreated in the last two years, has directly assisted more than 500 companies throughout New Jersey during FY 06.

We have expanded our network of technology business incubators throughout New Jersey to 12. These incubators support more than 350 companies who are either tenants or virtual tenants benefiting from the incubator's support services. These companies support more than 1,000 jobs and have combined revenue of more than \$110 million. We have instituted minimum requirements for the incubators and our incubator funding goes directly to services for the tenant companies such as guidance in developing business plans and grant applications as well as direct seed funds for development and commercialization assistance.

Through our Technology Fellowship program we have 14 PhD graduates of New Jersey universities working in small technology companies around New Jersey, and after awards are made later this week we will have several more in place. These are young scientists such as Mariela Reyes-Reyes, a recent PhD graduate of UMDNJ, who is working at Advaxis on a vaccine in clinical trials for cervical cancer patients, and Anamika Patel, a recent PhD graduate of NJIT, working at Energy Photovolatics on ways to make solar energy more economical. The Technology Fellowship program builds research relationships between companies and universities, retains talent in New Jersey, and supports companies by providing high-level employees.

Other programs at the Commission provide support to Technology Transfer offices in our universities to help create companies based on the patents and other intellectual property

developed in our research universities. We provide small grants to companies which are in line to receive larger federal awards – a program that increases the amount of federal research dollars coming into New Jersey. For example Herbst Research, one of our grantees, just received a \$2.4 million federal grant. In addition we provide training for companies applying for these federal grants.

We have also been actively involved in the many conversations throughout New Jersey on how to support the emerging nanotechnology industry. And I expect the Commission to take action on this issue during its meeting on Friday.

These are just some highlights of our programs.

Technology-based Economic Planning

As the legislature has given the Commission on Science and Technology the statutory duty to review and analyze the state of the technology industries and economy in New Jersey, several months ago the Commission asked economists James Hughes and Joseph Seneca of the Bloustein School at Rutgers to carry out a detailed analysis of New Jersey's technology industries. They worked with all of the Commission members and the technology community in pursuing this study.

As I expect you know, the work that Professors Hughes and Seneca did for the Commission has received widespread attention. New Jersey has lost 14% of its technology jobs in the last five years. Each time the state loses one tech worker we have to replace them with between four and five average private sector workers in order for the state to collect the same amount in income taxes.

Further analysis shows that while tech jobs represent only 7% of the workforce, those workers pay more than 30% of the income taxes collected by the state because these are high-paying jobs.

While the bad news has received significant coverage, what has not received the media attention is the second half of the Hughes / Seneca report which is what to do about it.

These suggestions include creating centers of excellence at our universities – such as the Stem Cell Institute of New Jersey – in areas that are important to our technology industries. These areas might also include nanotechnology, alternative energy, and clinical research. Centers of excellence would help New Jersey capitalize on the changing business model in which companies outsource much of their research and work more closely with universities on early stage technology development.

Phase II of the recommendations includes ways to enhance the entrepreneurial environment. This includes augmenting the type of programming the Commission provides now as well as increasing the venture capital funding available.

The third phase of recommendations is to work on improving the overall business climate in the state – a subject that you and the Governor’s Office of Economic Growth are working on already.

In January, the Commission on Science and Technology, drawing on its members’ entrepreneurial and business expertise, based on the recommendations from Professors Hughes and Seneca, and working with the technology community, proposed a High Tech Recovery Plan for New Jersey. This plan was forwarded to Governor Corzine and made available to the legislature.

The Commission is already at work tailoring its programming to begin carry out this High Tech Recovery Plan.

I know that you are looking for ways to support the state budget. You know that one of those ways is to maintain and grow high-pay technology jobs. The Commission on Science and Technology, with the help of our legislative members Senator Robert Singer and Assemblyman Upendra Chivukula, is eager to work with you on doing just that.

Thank you again for this opportunity. And I look forward to continuing to work with you to grow technology business and jobs in New Jersey.