

**NSERC Lunch, Ryerson University, February 24, 2005**  
**Keynote speech by Mr. Mark Romoff, CEO of the Ontario Centres of Excellence**

J'aimerais d'abord remercier Claude Lajeunesse, personnellement, pour la direction et la vision que vous avez apportée au système universitaire et de collège à travers ce pays.

Avec vos collègues à Ryerson, vous avez créé un modèle de croissance pour inspirer des Canadiens à travers ce pays, qu'ils soient chercheurs, étudiants ou citoyens quelconques.

De la part de mon organisation, et de tous ceux et celles qui vous doivent tellement, je vous souhaite une excitante prochaine étape. Vous nous manquerez, mais j'imagine que vous ne serez jamais trop loin.

Ryerson's growth as a Research institution is truly a model for other institutions across the country. I understand that Ryerson's peer-reviewed research portfolio now tops \$10 million annually. Other institutions may have longer traditions of research. But many are struggling for new ways to grow.

And they need look only to this campus, and to initiatives like the Ryerson Institute for Aerospace Design and Innovation for their direction. That initiative captures some of the qualities of outstanding research at any university: collaboration between professors and students to address fundamental questions hampering our growth.

In fact, when you stand in the presence of Claude Lajeunesse, who has helped shape much of the modern University and College system in this country, and you're asked to speak about the role of universities in the national research agenda -- you sort of have to cross your fingers and hope you don't get the answer wrong.

But because you've asked me to do that, let me try.

First and foremost, there is no question in my mind that the role of a university researcher is to pioneer knowledge, to be a trailblazer of knowledge, to do research for the *sake* of doing research and for the sake of opening young minds.

And I place that first because research doesn't start with economic needs; research starts with the fundamental, human need for knowledge. It starts with imagination, and curiosity and the very questions that do not fit into a business plan.

That defines, in fact, the difference between a corporate lab and a university lab. It is why businesses look to *university* labs – not their corporate labs – when they are truly trying to anticipate a revolution, or engage a revolution. Because new thinking comes from *your* work.

I make this point because my business is commercialization. And, when people speak about commercialization, they sometimes forget that the starting point is research done for the sake of research.

In fact, when you stand in this position, there is no easy distinction between basic research and applied research. When I walk into a lab or meet an investigator, I hear about applications for even the most supposedly basic research....

And when I go to a trade show, I can spend a whole day getting lost in a forest of “applied research” that really has no application I can understand.

Research has the power to revolutionize markets, because it starts with the *mind* -- and *not* with the market.

There is no better place to make that point than here, today, on an occasion honouring recipients of NSERC grants and that is why I am thankful for the opportunity to be here.

Research *does* have another role. And a role, perhaps, with which we have become more acutely aware in recent years.

University research is also the fulcrum of our economy.

When I was serving in Buffalo, I saw the U.S.-Canadian border change almost overnight. For years -- for generations, in fact, right back to the beginning of the 20<sup>th</sup> century -- Ontario's economy hinged on our ability to serve important segments of the U.S. market more affordably than Americans could.

In recent years, we could do it because our currency was cheap, and because our border was open.

Our border remains open to the United States as to almost every country in the world. But since September 11, 2001, we can no longer take the openness of those borders for granted. Nor can we take a cheaper dollar for granted.

Those two facts, together, are unleashing a ***paradigm shift*** in our economy.

In recent years, it has become obvious: we need to change the way Ontario's economy works. If we keep competing on the basis of cheap access to the U.S., we will become a footnote in the history of global markets.

Our economic future is about competitiveness, pure and simple. To be blunt about it: Ontario's economy has to do things *first, before anyone else*; and once the world catches up with what we're doing, we have to do the next thing – *first*.

We have to do this over and over and over again, until Ontario's economic reputation in the world is not just for making good cars, or for managing important resources, or even for our good science and our great minds.

We have to be first in what we do, over and over again until our reputation in the world is just that – for being first.

And you, every researcher here, is at the fulcrum of that economy.

So is the Ontario Centres of Excellence.

Many of you in this room know who we are. Eighteen of you at this lunch are working on projects with us.

But for those of you who don't know us well, we are matchmakers -- between Ontario's industry and Ontario's academic researchers.

The matches that Ontario researchers make through our programs have both the power to change Ontario's economy, and the power to accelerate and secure funding for scientific investigation at all stages.

- When Ontario industry faces a major technological hurdle, we find the academic researchers who are prying open the right puzzles to help.
- When Ontario researchers create discoveries with economic value, we find the companies to put those discoveries in the marketplace quickly.
- And if we can't *find* the right company, we found a *new* company, and launch it.
- When Ontarians worry about a brain drain, we fund institutions to train and retain highly qualified personnel here at home.

Last year alone, we helped nearly 4000 Ontario researchers at more than 20 universities, colleges and teaching hospitals move ideas from the lab-bench to the marketplace.

And we helped nearly 800 Ontario companies break through the limits of their own growth by introducing them to Ontario's university and college researchers.

I suggested, at the beginning of this talk, that there are two roles for research – one serves the mind, and one the marketplace -- and Claude hasn't stopped me yet, so I'll keep going...

The point is that we can only work at OCE because we refuse to pit those two roles against one another. The evidence of our ability to do that, and the indicator of our continued ability to do that, is the state of our collaboration with NSERC. In the last fiscal year, researchers supported by OCE also received \$35 million from NSERC. And that tells me that good research can play both roles.

Our goal is, in fact, is not to hive applied research away from basic research – it is to encourage a culture of application, *whatever* the research.

Now the reality is that we, as a country and as a province, are not very good at this... why?

Because significant barriers separate the lab from the marketplace. Sometimes these are barriers of convention. Sometimes they are barriers of tradition. Sometimes the two are separated by the valid and important differences between the culture of research and the culture of business.

Ultimately, the ability of our program to manage those barriers – to hear the marketplace without undermining the integrity of science – comes down to the skill of our staff and the vision of the researchers and industry partners with whom we collaborate.

There are a number of outstanding examples of that ability here in this room, of which I would like to draw your attention to at least two before ending today.

Your colleague, Sri (SHREE) Krishnan is one of them. Some time ago, Sri answered an OCE call for proposals with an idea for a technology that analyses digital signals of Aortic Pulse Wave Velocity. Aortic PWV, as some of you may know, is becoming a critical measure of cardiovascular health and functionality.

An Ontario company called Vital Signs was waiting in the wings, knowing that it could become a world leader in devices based on Aortic PWV, if only Sri's technology – developed here at Ryerson – had the support it needed to be prototyped.

OCE, through one of our centres called CITO – Communications and Information Technology Ontario -- funded Sri's research into this technology.

When it became clear that Sri's discoveries could actually become a prototype, the point when many other funding agencies consider their job over, we funded the manufacture of that prototype.

And now that it's become clear that there is real demand for a cardiovascular monitor based on Sri's technology, we are working on ways to market it and produce an initial run.

Sri is the case of a researcher who could picture his technology being used in the marketplace, and who could even picture the small company that might take it there, but who needed support – in the form of funds, and expertise. Sri helped us bridge the gap between the lab and the marketplace.

Steven Liss, who was kind enough to introduce me, is another example. In fact, he tells the story of how every one of the OCE collaborations he has seen has deepened the link between Ryerson and industry. That must reflect, in some part, Steve's ability to hear industry and answer their question.

In the summer of 2002, after Walkerton, the provincial government asked us to help develop technologies that would ensure the safety of wells for the 30 percent of Ontarians whose communities rely on groundwater. In one of our centres called Crestech – the Centre for Research in Earth and Space Technologies – we have developed a “think tank process”. That's a process in which we invite researchers to sit in a meeting with community or industry representatives and simply listen to problems as they are experienced in the world outside the lab.

Steven attended a “think tank” on well-water safety and quickly started work on whether pathogens could actually grow on a well screen – deep in the ground -- and not just be washed into well water from the surface. The answer to that question would tell us what we needed to do to better protect Ontarians from water-borne disease. And it was especially critical for farming families who don't have huge resources to treat their own well water, if it's infected.

Steven is now undertaking that project with a number of industrial partners, including two engineering companies, a hydrology company and the Ontario Federation of Agriculture.

The project runs to 2006, but I understand that you have already boosted Ontario's competitiveness in this area. Through this project, we were able to introduce Steven to a company called Aquasure. And Steven was able to verify the effectiveness of their portable e-coli testing device, allowing them to get their product on the market two months from now.

So Steven, I began by thanking you for introducing me, and I'll end by thanking you and all your colleagues for your outstanding work.

These are only two stories, and they are really only touch on the kinds of powerful results that often arise in these kinds of collaborations.

More importantly, in my mind, they illustrate the opportunities that arise when research and the marketplace work together, and in an environment of mutual respect.

It's no coincidence, by the way, that these stories come from Ryerson. Because the kind of place that can move as quickly as you have in the past few years, is precisely the kind of place that can move this province and this country to the next stage of competitiveness.

In my old job, I used to stand on the border with the United States – down in Buffalo – and consider our country's place in the world.

You can get the same view, with the same question, right on Victoria Street. Right from your lab.

Because your labs, and your imaginations and your creative discipline represent Ontario's new place in the world.

Thank you.