



Celebrating Ingenuity: Dr. Peter Hackett

>INTRODUCTION

Welcome everyone to another Celebrating Ingenuity. We are glad that you are here. We have a lot to celebrate together.

My wife Nuala and I are feeling pretty good about our decision to come to Alberta. Through dumb luck we came here at a marvellous time.

No debt, no deficit, \$40 billion of savings, a culture of risk taking, strong incoming immigration of highly motivated and highly educated people, a strong core of dynamic and rapidly growing companies, companies like QSV Biologics, Smart Technologies and CastleRock Research, with my friends Nancy Knowlton, David Martin, Graham Maloney and Gautum Rao at the helm.

And great research universities.

Alberta is rich and I believe that Alberta will remain rich.

So the only question for me now is where will Alberta chose to invest its riches? How are those riches to be used? How wise will Alberta be? What does it mean to live a rich life? What does it mean to be purposeful about the future?

And our Ingenuity lecturers Peter Singer and Abdallah Daar will address this theme, I am Sure, in their lecture later this evening. Peter and Abdallah, we know that they have big shoes to fill following the previous lecturers Bill Buxton and Harry Kroto.

And we are sure they will not disappoint.

But back to my feeling of optimism. Ingenuity is growing. In fact, it has been on a rocket of a growth curve – an organic growth rate of thirty per cent per year since we started out.

Our last Annual Report – Ingenuity Inside – talks about last year's expenditures of \$30 million. This year we should reach \$40 million. And next year, we have \$60 million booked and accounted for. We know where the money will come from.

So far, we have been flying under the radar screen and in the shadow of our sister Organisations, but that cannot go on. Sooner or later - if the growth rate keeps up - and I see no reason why it should slow down - people are going to notice that we have arrived.

And the place we will arrive at: it is to have created a truly strategic, modern research funding organisation for science and engineering research and innovation - de novo – from scratch.

The opportunity is simply stated. Alberta's research and innovation support system is massively parallel. It is not massively powerful. But I am feeling bullish that we can change that. And I am feeling very bullish about what Alberta's researchers can achieve.

And you have made an excellent start. Let's just list some highlights from last year:

We have launched COSI, the Imperial Oil – Alberta Ingenuity Centre for Oil Sands Innovation that is bringing breakthrough technology and environmental improvements to the Oil Sands.

AICCS and AICML RENEWAL

The Carbohydrate and the Machine Learning Centres passed through a very stiff renewal evaluation. Congratulations to David Bundle of AICCS, the winner of this year's ASTECH Leadership in Alberta Science Award and to the whole AICML team the winner of last year's.

We intend to launch five new Ingenuity Centres under the banner Alberta Ingenuity Centres for Research and Commercialisation.

> AWRI

The Alberta Water Research Institute was launched with Lorne Taylor as the Chair of the Management Board and David Schindler as Chair of the International Research Advisory Committee and \$30 million of new funding from the Province. AWRI builds upon the Alberta Ingenuity Water Research Centre. Premier Stelmach spoke glowingly of the initiative at its launch, and reiterated his commitment to environmental sustainability. No doubt that AWRI has a very rosy future, with co-funding from industry and across government is already pouring into the initiative.

> NANOTECH ACCELERATOR

The first Alberta Ingenuity Accelerator was announced with a commitment of \$100 million over the next ten years. The first accelerator will be in nanotechnology.

The Accelerators will add to Alberta's outstanding position in nanotechnology. A position built by researchers across Alberta, like the researchers working at the frontiers of molecular recognition, and Garnette Sutherland working in inter-operative molecular imaging and robotic surgery. The accelerators seek to take us to the next level. We would like to launch a total of five of these Ingenuity Accelerators. We don't have the money yet, but we take heart from the fact that the Minister said that he would like to do it too!

> NanoWORKS

We have announced a Nanotechnology Industry Research Partnerships Program with \$15 million of funding over the next 5 years. And I should say that - unlike the Globe and Mail - all figures are in Canadian Dollars!

> IRON SCIENCE TEACHER

We held the second annual Iron Science Teacher competition. Iron Science is a wonderful event where teams of four science teachers compete in Science Stadium to put together a science lesson with a secret ingredient. Did I say compete? One of the teachers said to me, "We're teachers; we're just not that competitive."

So let me rephrase that: Iron Science is where teams of science teachers fight to the death in Science Stadium. Russel Crow's Gladiator has nothing to teach these passionate communicators.

> INGENUITY ENTERPRISE

We launched the Ingenuity Enterprise Entrepreneurship Program with a commitment of \$1 million per year for five years and we honoured our founding chair and great Albertan Alvin Libin with the creation of Libin Entrepreneurs in Residence at UTI and at TEC Edmonton. We further honoured Alvin through the creation of the Libin Chair in Biomedical Engineering in partnership with Seymour Schulich, Alvin's long-time friend and associate. The Chair is held by Michal Okoniewski at the University of Calgary – Congratulations Michal.

> iGEM

We supported teams of students from across Alberta to participate in the International Genetically Engineered Machines competition at MIT. iGEM speaks for itself.

Here is what one of the students Celine Youci Zeng says:

"The whole concept of synthetic biology unleashes the ultimate human creativity. The future of science lies more and more towards a multidisciplinary, and transdisciplinary approach that brings people together for the creation of something ingenious, just like the iGEM competition."

Special thanks to the Butanerds who engineered a bacterium to produce butanol as an alternative fuel source, bio-butanol.

The team won first place in the Energy track, as well as a Gold Medal (highest standard) in iGEM competition participation. Hats off the students who did this: Michelle Chan, Erin Dul, Jason Gardiner, Nick Glass, Veronica Houston, Nik Kumar, Matt LaFleche, Alex Lam, Justin Pahara and Celine Zeng and of course, to all of their supervisors who made it possible.

> INTEGRATED ALBERTA GRADUATE STUDENTS PROGRAM

And finally, we have championed an integrated approach to graduate student support in Alberta - taking on that fragmentation issue head on. We started out in April and we hope to have something definite to announce before the year is out. And this might be where the last vestiges of my once flowing locks went. But we will get it done. Joking aside, the student scholarship program is a vital piece of what we do. The graduates holding these scholarships are the future of science and engineering in the province and the next wave of Alberta's Ingenuity.

This program has been growing steadily since 2001 and we invest almost \$5 million a year in the existing program. That will expand to an \$11 million program, as we work with iCORE and Alberta Advanced Education and Technology to create an integrated program including nanotechnology and ICT students.

This past year, we worked closely with the Alberta Energy Research Institute to create a new scholarship – The Len Bolger Memorial Scholarship in Energy Research Excellence – to recognize the two highest ranked students in energy-related research fields every year.

Len Bolger was a giant on Alberta's energy innovation scene and played the key role in the development of the province's energy innovation strategy.

It is my pleasure to ask the Managing Director of the Alberta Energy Research Institute, our good friend Dr. Eddy Isaacs, to provide a bit more background about Len Bolger and the new award.

Eddy... <break for Eddy's words and scholarship presentation>

Thank you both. You can see that with students like Bill, Hany, Cynthia and the iGEM teams, Alberta's future is assured. All the best to all of you.

I would be remiss if I did not thank all of the people who have helped us get this far. Our Trustees, our colleagues in Alberta Advanced Education and Technology, the leadership of our colleagues at the Alberta Science and Research Authority under our good friend Marvin Fritzler, and the leaders of Alberta's knowledge-based companies and its research universities. Our partners in organizations across the province; organisations that make a difference like iCORE and Science Alberta Foundation.

But finally it comes down to each of the award winners here tonight, the science teachers, the graduate students, the new faculty, the scholars, the researchers, the centres, the industry associates and the entrepreneurs. You are the foundation of Canada's future and the future of its science and engineering enterprise.

You are Alberta's Ingenuity.

Each of you has ingenuity inside.

We are proud to be but a small part in your story and of your future achievements. Please join me and raise your glasses to the 2007 Alberta Ingenuity award recipients.

> INTRODUCTION OF KEYNOTE SPEAKERS: Dr. PETER SINGER and Dr. ABDALLAH DAAR

Now one of the highlights of my year was going to the TELUS World of Science to hear the great Kenyan palaeontologist Richard Leakey speak on Global Change. Richard said that in his country the energy issue is very clear - there is no energy. He described the school he passes each day on his drive into Nairobi. Every child brings a twig or a branch to cook the lunchtime meal. And he described similar challenges that are present in clean water, health care and nutrition. And he said that his world is looking to our world to help produce solutions.

The things that we do here in Edmonton / Lethbridge / Calgary could make that difference. And how we do those things could also make a difference. We have come a long way indeed, but we still have far to go together.

Tonight's keynote speakers – Dr. Peter Singer and Dr. Abdallah Daar from the McLaughlin-Rotman Centre for Global Health in Toronto will speak to this issue.

Dr. Peter Singer is Senior Scientist and Professor of Medicine at the McLaughlin-Rotman Centre for Global Health, University Health Network at the University of Toronto. He has received Canada's highest health research awards including the Canadian Institutes of Health Research Distinguished Investigator Award and the Michael Smith Award (as of next Tuesday). He is a Fellow of the Canadian Academy of Health Sciences and the Royal Society of Canada (as of tomorrow).

Peter grew up in Toronto and studied internal medicine at UofT, medical ethics at University of Chicago, public health at Yale University and management at Harvard Business School. Dr. Singer qualified to be a doctor at the age of 24.

Dr. Abdallah Daar is Professor of Public Health Sciences and of Surgery and Senior Scientist and Director of Ethics and Policy at the McLaughlin Centre for Molecular Medicine. He is also Co-director of the Canadian Program on Genomics and Global Health and Senior Fellow of Massey College at the University of Toronto. He is Senior Scientist at the Hospital for Sick Children Research Institute and Associate Scientist at Mount Sinai Hospital Research Institute.

Dr. Daar is a Fellow of the Royal Society of Canada, the Canadian Academy of Health Sciences and the New York Academy of Sciences. He is a member of the Ethics Committee of the Human Genome Organization.

Abdallah was born in Tanzania and grew up in Idi Amin's Uganda. After attending medical school in London, he went to the University of Oxford where he did postgraduate clinical training in surgery and also in internal medicine, a doctorate in transplant immunology/immuno-genetics, and a fellowship in transplantation. He was a clinical lecturer at Oxford for several years before going to the Middle East to help establish two medical schools and a biomedical research institute. He was the founding Chair of Surgery in Oman for a decade before moving to the University of Toronto in 2001.

Through their work at the McLaughlin-Rotman Centre for Global Health, they are

focused on moving health technologies from the “lab to the village” commercializing technologies to address issues in developing world.

They are both international advisors to the Gates Foundation, helping to identify the grand challenges in global health. As well, they have been advisors to the UN Secretary General’s Office on bio-security.

Their global foresight study: “The top ten biotechnologies to improve global health” is but one landmark study deserving of our attention.

Peter and Abdallah were in Toronto on Wednesday, Seattle yesterday and Edmonton today. They will be in Lethbridge on Monday, Toronto on Tuesday, and Calgary on Wednesday. They know their global issues.

Please join me in welcoming Peter Singer and Abdallah Daar.