

## Speaking Points

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Minister of Advanced Education and Technology

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12-15 min.

## **Introduction**

- Thank you Kevin [*Kevin Keough, Executive Director, Alberta Prion Research Institute*].
- I am honoured to join you today for this first PRION Research Congress held in Canada.
- I extend congratulations to the event hosts, The Alberta Prion Research Institute and PrionNet Canada.
- Also, I'd like to thank all the event sponsors including two Alberta based organizations, Biorefinex and the Alberta Livestock and Meat Agency.
- I bring greetings from our Premier, Ed Stelmach, who, as a farmer, has a great personal interest in the outcomes of prion research.
- As someone with a background in biology, I too have a great interest in the work of the researchers, organizations and companies here today.
- And when I consider the incredible research talent joining us today... including Dr. Stanley Prusiner...well, I'm glad I went into public service.

## **The impact of BSE on Alberta**

- Until 2003, when a single case of BSE closed Alberta's borders to beef and cattle exports, Albertans only knew of prion disease as a foreign concern.

- Suddenly, a \$3 billion a year industry was in jeopardy and people questioned the safety of their food.
- It seems surprising now, but at that time, there were no scientists conducting prion research in Alberta and no facilities to support prion research.
- After an initial period of fear and uncertainty we learned a few things:
  - We learned that Alberta was a fairly low-risk place for BSE;
  - We learned that our livestock tracking system did work; and,
  - We learned that our regulations for feed were generally good.
- However, we learned also that our tracking methods needed to be better.
- We learned that we need to be even more vigilant concerning specified risk materials.
- Most importantly...we learned that Alberta could have a valuable role to play as a centre for prion research.

### **Alberta's response to BSE**

- In 2005, Alberta launched the Alberta Prion Research Institute...or APRI...with an investment of \$35 million and a seven-year mandate.
- Through this investment, our government asked the institute to:

- Develop the province's research capacity in the field of prion and protein misfolding diseases;
  - Explore BSE-related best practices for Alberta's beef industry; and,
  - Provide sound scientific evidence to support the development of public policy.
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- With guidance from local, national and international experts, we've gone from a small presence in prion research to become an important hub of prion research.
  - The Alberta Prion Research Institute has invested in people, programs, infrastructure and partnerships...such as funding support for 36 world-class researchers...more than 200 emerging professionals including graduate students and post-doctoral fellows...and highly trained technicians.
  - The Institute has developed strategic research programs that address emerging challenges important to industry.
  - As of 2010, APRI has committed more than \$27 million towards 49 multi-year research projects.
  - That's a lot of activity and we're very proud of how quickly we've built a research community in this field.

- And, working together, APRI and PrioNet Canada support the commercialization of research into products and services that can make a real difference for industry, the economy and people's day to day lives.
- I want you to know that all this activity isn't just a response to BSE.
- It's an example of how Alberta is leveraging all of its research resources and infrastructure.
- As some of you may already know...we've recently introduced a new innovation system in Alberta ...it's called Alberta Innovates...and the Alberta Prion Research Institute...which is a part of Alberta Innovates Bio Solutions...is a proud part of the system.

### **Alberta Innovates**

- The Alberta Innovates system builds on decades of investment in research facilities.
- It supports research through long-term endowments worth billions.
- It draws upon a more than 90-year legacy of research achievement.
- And when we asked stakeholders how we could improve our innovation system, they asked for enhanced access to facilities, more flexible programs and support for commercialization.
- They asked for greater alignment and coordination of resources.

- This is what we've strived to create and deliver.
- Our Alberta Innovates system has four innovation corporations...including two which will be of particular interest to you...Alberta Innovates Bio Solutions and Alberta Innovates Health Solutions.
- Alberta Innovates Bio Solutions has a mandate to advance science and innovation in Alberta's agriculture, forest and healthy food sectors.
- And in related areas, Bio Solutions supports two other Alberta organizations with a role to play in reducing prion and protein mis-folding diseases...Livestock Gentec with its world-class livestock genomics research programs...and Genome Alberta.
- Alberta Innovates – Health Solutions continues a 30-year legacy of support for top-level medical research that's resulted in successes like the Edmonton Protocol for diabetes treatment, to name just one.
- These organizations, along with our university research centres and research-focused companies are all part of the Alberta Innovates system.
- Which, everyone here can access through our Connector Service...one window to put you in contact with potential collaborators or partners.
- Projects like those I just mentioned rely on collaboration, which we have a long history of in Alberta.

## **Alberta's prion research strength**

- When BSE closed borders to our beef and cattle exports, we knew we had a choice...to get out of the beef industry...or to work with a range of partners to become a leader in prion disease research and livestock management processes.
- By now, I'm assuming it's clear to you which route we chose.
- Our legacy of investments allowed Alberta to react quickly to a situation like BSE.
- This would not have been possible without strong collaborations with organizations at home, across Canada and internationally.
- We know the value of relationships and collaboration and the Alberta Prion Research Institute is committed to nurturing relationships and fostering new ones.
- The Institute's partnership with PrionNet Canada has been extremely successful.
- Co-hosting this international congress is only one of many examples of how both organizations work well together.
- The Alberta Prion Research Institute has also partnered on initiatives with the Alberta Livestock and Meat Agency, especially in the area of specified risk material disposal and chronic wasting disease.

## Alberta based research highlights

- You can see we have an amazing prion research community and infrastructure.
- I'd like to take a moment and tell you about some of the talented people working in Alberta and their exciting research.
- One very promising avenue of research is the work of Dr. Ted Allison and his team at the University of Alberta's Allison NeuroDegeneration & Functional Regeneration Laboratory
- Dr. Allison is developing a model for studying prion and protein misfolding diseases using the zebra fish.
- Dr. Allison realized that prion disease research needed a more sophisticated and genetically human-like model than, say fruit flies...but one that could be quickly and easily grown in a laboratory setting.
- His goal is to create zebra fish that develop these diseases to boost our understanding of the relationships and interactions between proteins that mis-fold in these diseases and other proteins that are believed to participate in disease.
- This work will help to illustrate links between prion diseases in both humans and animals.

- With a consistent and repeatable model for research, researchers everywhere will be able to more quickly discover and advance promising new knowledge.
- Another important research program in Alberta is Dr. Judd Aiken's work on soil as a reservoir of Chronic Wasting Disease infection in deer and other wild animals.
- This is vital research in Alberta, not just because hunting is a popular pastime in Alberta.
- This is cutting edge research on the mysteries surrounding infection and transmission.
- Another area where there is cutting edge research in Alberta is Dr. David Westaway's work on the genetic basis of infection.
- Dr. Westaway has worked closely with Dr Prusiner, and, as Director of the Centre for Prions and Protein Folding Diseases, is a talent we're happy to have in Alberta.
- As if his work in multiple areas of prion research wasn't enough...he also developed a transgenic mouse that's a critical research tool.
- Research tools are vital, and so are the tools that help diagnose diseases.
- ChemRoutes...an Alberta-based drug discovery company...is working in collaboration with Dr. Michael Woodside at Canada's National Institute for

Nanotechnology to synthesize new chemicals that could help diagnose and treat prion disease.

- This is just one example of collaboration between industry and our research and innovation system.
- Another is Sanimax and their work with Dr. David Bressler on eliminating infectious prions in specified risk materials.
- This project goes even beyond that to develop value-added uses for specified risk materials.

### **Campus Alberta**

- Much of our prion research happens in our post-secondary institutions just like it does worldwide.
- Universities have always been centres for discovery.
- In Alberta we recognize they are also vital partners for discovery, for commercialization and for developing talent.
- We call our post-secondary system Campus Alberta...and just as we've created alignment in the Alberta Innovates system, we've done the same in our post-secondary system.
- Most jurisdictions I know of have plenty of post-secondary institutions, but they don't have a system...

...where the institutions work together to serve students better.

- In some places, their institutions don't even talk to one another.
- Alberta is the only place I know of that has been able to create a collaborative system like Campus Alberta.
- And it plugs right into our Alberta Innovates system so that we can leverage our resources to benefit our researchers, to benefit graduate and post-doctoral students, to benefit companies that want to work with us and...ultimately...benefit society.

### **Opportunities**

- As I've said before, we've created a phenomenal capacity for research in the province of Alberta.
- So, whether you need one of the world's best electron microscopes or a level-two lab, or talented people...it's all in Alberta.
- Alberta's investment in prion research...and its investments in neuroscience research...provide us a unique position to study where the causes and pathologies of these diseases intersect.
- And, as you know, it has recently become clear that there are closer than expected connections between how proteins misfold in prion diseases and how they misfold in other diseases.

- So whether a breakthrough comes at the University of Alberta's Centre for Prions and Protein Folding Disease...or the Canadian Centre for Behavioral Neuroscience at the University of Lethbridge...or at the Hotchkiss Brain Institute at the University of Calgary...Alberta's innovation system can get new knowledge from the lab to the field quickly.
- Because people need to know their food is safe...and that treatments for dread diseases are possible.

### **Conclusion**

- In closing, I'd like to thank all of you for your dedication to prion and protein misfolding research.
- Just as we've made tremendous progress in treating cancer or heart disease, I expect we'll make similar progress to detect, treat and prevent prion diseases...and that's thanks to your efforts.
- I'd like to also thank the organizers and congratulate the Alberta-based sponsors of this conference.
- I would also like to encourage everyone to learn more about Alberta's prion research communities and the Alberta Innovates system.
- Collaboration and partnerships are something we greatly value and I encourage everyone to seek out opportunities in Alberta.
- Thank you.

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