

>May 1, 2007 - Welcoming Remarks

Thank you everyone - for coming to this second annual Alberta Ingenuity Media Master Class with Jay Ingram. I thought I should open with a few remarks about why all this is so important to us at the Alberta Ingenuity Fund. Let's begin with our vision which is: to make Alberta a research and innovation destination - a global innovation icon - the place where innovators would want to be.

To do this, it is essential that we have in Alberta a place where people understand and support science. We need to build a Science Culture in this Province. And this for two essential reasons – the first purely pecuniary, the public are the ones who are going to have to pay for our efforts in getting there. And the second deeper reason - an informed public will accept the products produced by an innovative economy; whether these be economic products or new public policy or just enriching new knowledge about our world and the way things work.

Science really has been the transformative force in our society, and we simply cannot make effective progress without a culture that understands and embraces science – a science culture. I believe that the public desperately wants to be informed about science on their own terms, in language they can understand and on the issues they care about. A colleague of mine at the University of Lethbridge, Maggie Romuld, likes to put it this way, “I think there is a severe underestimation of the power of the public - waitress, rancher or accountant - to influence government policy and support of research.” Now, like it or not, the media are essential to the process of developing an informed public. And therein lies the rub. The media also like controversy – or at least two sides to every story. Science likes controversy too but issues do get resolved on the basis of balance of probability. And often the media are still giving “balanced” two-sided views long after science has moved on. This confuses the public and delays things.

But sometimes it's the Wild West out there and that confuses the public too. Look at claims of health effects of various foods and vitamins. There seems to be no oversight on the health claims that can be made or attributed to any food or supplement. And don't worry about what you read because by next week you can expect to read a counter-claim. I call this Technoporn because although it looks attractive, it is an essentially non-productive activity.

The Globe and Mail ran a series of stories over the past week on the power of vitamin D to reduce the risk of cancer. And this seems very reasonable to me. We are starved of sunlight and vitamin D is a powerful hormone. So there is a scientific basis and the preliminary clinical data look very impressive indeed. But cast your mind back to the late eighties, Linus Pauling was

promulgating the advantages of mega-doses of vitamin C to prevent cancer, while at the same time Keith Ingold at the NRC was promulgating the advantages of vitamin E, a powerful free radical scavenger and antioxidant, as a way to prevent cancer. Are we any further ahead? Take your pick vitamin C, D or E? And what a tragedy if one really does work and the public lets it all pass over their head because they have and tuned out. So the point is, as your careers in science progress, from time to time, you may have to stand in the media spotlight and communicate clearly and honestly with the public. It is part of your responsibility as scientist-citizen. And it's a sacred trust. And you should learn to do it as well as you are able.

I started my scientific life as a chemistry undergraduate at the University of Southampton in 1966. At that time the big debate in gas phase chemistry concerned the effect of supersonic transportation on the ozone layer. The data was confusing. The debate raged from side-to-side and resulted in no really clear conclusions or actions.

However, in the early seventies, gas phase photochemistry was back in the news as Frank Sherry Rowland at the University of California at Irvine predicted: a catastrophic effect on the ozone layer from atmospheric releases of Chlorofluorocarbons, CFCs. The thinning of the layer was correlated with increases in skin cancer. The data was clear and easy to understand. The spokesman was eloquent and in short order, there was global ban on the use of CFCs.

It was only a decade later that British scientists observed the thinning of the ozone layer over the Antarctic – the Ozone Hole. Mario Molina at UC Irvine demonstrated that this was due to catalytic reaction on polar stratospheric clouds and he and Sherry quickly received a well deserved Nobel Prize in Chemistry. Once again the data were clear and incontrovertible. At the same time as I was watching all this happen, I was teaching atmospheric photochemistry using Richard Wayne's book and I well remember his discussion on climate change and carbon dioxide levels. Climate Change took far longer than the CFC issue to reach the public's attention and there are lessons to be learned there.

It is hard to think of a single current scientific issue that the Alberta public does not need to be clearly informed upon in language that they can understand:

- Water research and water policy
- Oil sands development and environmental technologies
- Protein misfolding and transmissible spongiform encephalopathy
- Genomic sciences and biotechnology the same technologies that can bring forward bio fuels or bring back smallpox
- The 2000 bit quantum computer that might be able to break public-key encryption

These are the issues that everyday Albertan's need to hear about – in language that they can understand - and these are the issues that you are uniquely qualified to speak about. Our hope is that you will find some value in this workshop as you engage with a master communicator of science— Jay Ingram. Over to you Jay.