



**12th International Congress of Radiation Research
Opening Address
Sunday 17 August 2003, 5.00pm
Brisbane Convention Centre**

Chief Justice Paul de Jersey AC

The contribution of scientific research to our society and way of life is often unheralded, but certainly significant. Without medical research, human suffering would be manifoldly worse. Without engineering research, we would still travel overseas by ocean liner. And without space research, Dave Barry's question "What happens if a big asteroid hits the Earth?" would be unanswerable. Fortunately, with the benefit of that research, he can provide the answer: "Judging from realistic simulations involving a sledge hammer and a common laboratory frog, we can assume it would be pretty bad."

It is my great pleasure to deliver the opening address at this International Congress of Radiation Research. I am proud to be associated with a gathering drawing together over 1000 delegates from around the globe, rightly designating itself the most prestige international radiation research meeting in the world.

I particularly welcome visitors to the State of Queensland, the Sunshine State. I hope you radiation experts may, while here, enjoy the therapeutic benefits of a dose of our renowned sunshine, while of course exercising care, in the realization Brisbane regrettably warrants the name, the melanoma capital of the world. Fortunately science has taught us the relevant precautions.

I am sure the Queensland and Australian specialists present would wish me to acknowledge their grateful anticipation of enhancing their own undoubted expertise by



12th International Congress of Radiation Research
Opening Address
Sunday 17 August 2003, 5.00pm
Brisbane Convention Centre

sharing views and experiences with high level colleagues from all over the world.

Welcome, and thank you!

These conferences are crucial to the continuing vitality of any profession. They are particularly important in research-intensive areas like radiation, where effective channels of communication are fundamental to the achievement of ongoing progress. A good researcher must also be a good communicator. Albert Einstein was apparently a master in that regard; he was able to explain the apparently difficult concept of relativity in the following straightforward way: “When you are courting a nice girl an hour seems like a second. When you sit on a red-hot cinder a second seems like an hour. *That’s* relativity.”

Having established my scientific credentials by so clearly elucidating that difficult concept, may I turn specifically to radiation research? Its story began in 1895, with the discovery of x-rays by Wilhelm Röntgen, engaged in research at the Physical Institute of the University of Würzburg in Germany. He announced his discovery the following year. The news engulfed the world. The discovery won Röntgen a Nobel Prize in Physics in 1901. When asked his thoughts upon making his discovery, he famously and diffidently replied “I didn’t think, I investigated.” An absence of thought is not typically commendable, at least not in the law, but Röntgen’s willingness to experiment certainly achieved results.

The world of Röntgen was very different from today’s; it is trite to observe the intervening century has seen remarkable change. The world’s population was then 1.6 billion; it now exceeds 6 billion. The British Empire then extended over 11 million square miles of territory; it now accounts for a mere 100,000 square miles. Infant mortality has plummeted and life expectancy has soared. The century has witnessed significant events, though the most notable, according to a Time magazine poll in 2000, was Elvis teaching American teens to rock n’ roll.



12th International Congress of Radiation Research
Opening Address
Sunday 17 August 2003, 5.00pm
Brisbane Convention Centre

The century has brought inventions and ideas which have dramatically improved the lot of human kind, like penicillin and vaccines against measles, polio and rubella; inventions which have simply made life easier, like cars and airplanes; and, to be fair, ideas which have really just made life more difficult, such as casting George Lazenby as James Bond.

Fortunately, advances in radiation research fall squarely into the first category; to continue the analogy, as ideas, they rate, you may feel, alongside the casting of Sean Connery in Dr No. Almost immediately following Röntgen's discovery of X-rays, scientists detected radioactivity and identified the element radium. Then, in a development which has had a profound impact on the subsequent practice of medicine, X-ray equipment was developed. More recently, the world has seen advances in radiology and the implementation of advanced scanning techniques. Radiation is now a central aspect of cancer treatment.

That brief summary obviously fails to do justice to the remarkable contribution radiation research has already made to humanity, though its benefits are readily apparent even from that succinct abstract. Yet plainly, there remain challenges ahead. The full potential of radiation as a therapeutic tool has yet to be realised. Moreover, radiation can be harmful, and can be used to detrimental, rather than positive, effect. The challenge for this gathering is to promote an ever-increasing understanding of radiation and its capacity to improve lives, through the conduct of scientific research.

To that end, I note the detailed program of addresses to be delivered here, ranging from new developments in radiation equipment to the level of radiation in space. You will gain much theoretical and practical insight; in the latter sense, the research by one of your number into the use of radiation technology in the wine industry may prove particularly



12th International Congress of Radiation Research
Opening Address
Sunday 17 August 2003, 5.00pm
Brisbane Convention Centre

relevant at tonight's opening reception! In whatever respect, I trust you will find the conference a valuable and fulfilling experience; you are certainly doing your part to disprove the English scholar Benjamin Jowett's laughable observation: "Research! A mere excuse for idleness; it has never achieved, and will never achieve any results of the slightest value."

I have spent the last few days conducting a murder trial in the criminal court. To my mind, the most remarkable advances witnessed in the criminal courts of this nation over the last couple of decades have been, first, the audio or video recording of police interviews of suspects, which has dramatically reduced the scope of many trials because of the absence of challenges to the voluntariness of alleged confessions; and second, the impact of technology, such as computer assisted investigation and presentation of evidence, and the impact of science, most notably DNA analysis. It is in that last respect that scientists and courts have learnt to be particularly circumspect. Allowing for the often crucially decisive impact of evidence of that character, we have had to be careful to ensure that juries, especially, are not dazzled by statistics incomprehensible to the layperson. And of course the troublesome recent experience in the criminal courts of the United Kingdom, in relation to murder allegations following multiple deaths of infants within the same families, has provided an arguably startling example of that need for particular care.

But your focus is not, I am confident, on dazzling statistics; neither does it rest on facilitating the process of criminal justice. It is even more fundamental: bringing the most astute scientific intellect to bear for the true betterment of humankind – and of that motivation I am utterly convinced, not only from general observation as a member of the community, but from my experience over some years of privileged association with the Queensland Cancer Fund and the Cancer Council of Australia.



12th International Congress of Radiation Research
Opening Address
Sunday 17 August 2003, 5.00pm
Brisbane Convention Centre

I wish you well in your important endeavours over the next few days, endeavours so vitally rooted in the public interest. It has been my great pleasure and honour to deliver these brief preliminary remarks to such a distinguished gathering, and it is my privilege now to declare the 12th International Congress of Radiation Research officially open.