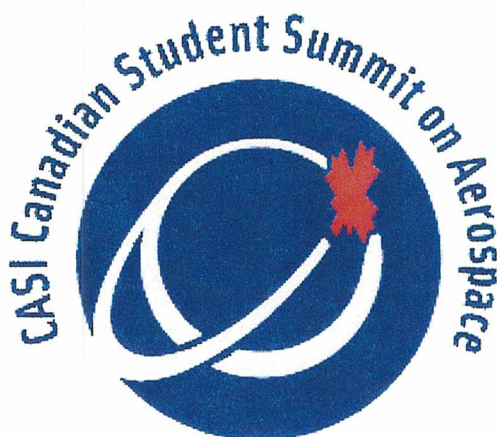




**CSSA 2004**  
CANADIAN STUDENT SUMMIT ON AEROSPACE

The 3<sup>rd</sup> Annual



**University of Waterloo  
Ontario, Canada**

**Friday, January 30 to Sunday, February 1, 2004**

**hosted by the**

**Waterloo Space Society**

**&**

**Canadian Aeronautics and Space Institute**



## Foreword – Jim Floyd

My greetings and good wishes to all attendees at this 2004 Canadian Student Summit on Aerospace. I am indeed honoured to have been asked to prepare a message for this important event.

Over seventy years ago, as a young student like most of you, I had dreams of what I would like to contribute to the world based on the help and knowledge received from my teachers and mentors. However, in my wildest dreams, I could not have imagined that I would be embarking on a journey that would lead to being deeply involved in the design of the mighty Lancaster bomber, to being invited to come to Canada to lead the design team on the world's first regional jet, the Avro Jetliner, which established so many transport records and paved the way for the 'jet age' which we all now enjoy, then to be privileged to lead the design team on the fabulous Arrow project and later to become deeply involved in the world's only supersonic passenger airplane, the Concorde. I can only hope that you all have that kind of luck!

It was a long and winding road, often blocked by 'demons' in the form of ill-informed self-serving politicians who destroyed much of our pioneering work in Canada in acts of inconceivable madness. However, they could not destroy our spirit or the technical knowledge that we had gathered in carrying out those ground-breaking projects. Many of the members of the engineering team at Malton went to beyond the state-of-the-art projects all over the world. Some went to NASA and helped to put a man on the moon, some to the UK to work on the supersonic transport design, others contributed to Canada's entry into the field of atomic energy and space engineering in the form of the Canadarm and communication satellites. Many went into general aviation activities or left the industry altogether.

The workforce at Avro Arrow and Orenda was among the best in the world at that time and the abandonment of those highly skilled and integrated teams was a great loss to Canada, especially at a time when Canada was widely acknowledged to be one of the world leaders in state-of-the-art aviation. It would be wrong for me to give you false hopes about the prospect of Canada again entering the field of mega-performance aircraft on a 'go-it-alone' national basis in the foreseeable future. That all went down the drain in February 1959 when the government of the day pulled the plug on the Arrow and Iroquois engine projects and ordered all evidence that they had ever existed to be destroyed.

Since that time, Canada has concentrated on its chosen 'niche' in the design and development of private, business and regional passenger aircraft and has been very successful in that endeavor, becoming one of the world's major producers of regional sized aircraft. However, if your chosen field is aimed at contributing to the design of high performance aircraft and space vehicles and generally pushing the boundaries of aerospace technology, it is an unfortunate fact that you are now more likely to find that kind of challenge outside of our beloved country, as many of us did after Black Friday.

Having said all that, there are many challenges left to be faced in the aerospace field and we have to set our sights on the future. I have little doubt that in the lifetime of you young students there will be a quantum leap in communication technology which will change the way we live, especially for the underprivileged peoples of the world. The rapid growth of the Teleconference could have a marked effect on business travel and air transportation is likely to become even more orientated towards vacation activities.

Some of the future international deep space activities will probably be motivated by the desire to phase out the use of expendable fossil fuels and find a way to use the non-expendable energy of our solar giant, possibly by collecting that source of energy on our conveniently orientated Moon and transmitting it to Earth by microwave systems. There is also the possibility, expressed by Dr.



Harrison (Jack) Schmitt, the last man and the only geologist to set foot on the moon, in his foreword to the remarkable book 'Moon Missions,' by William F. Mellberg, that solar Helium 3, found in samples brought back to Earth, could be used as a highly efficient and environmentally safe fuel for fusion power generation. Humans will inevitably return to the Moon, but as part of an International endeavour.

I also believe that despite the recent abandonment of the world's only supersonic passenger aircraft, there is a distinct possibility that you will see, within your lifetime, a hypersonic passenger aircraft that will cover the distance between Toronto and London or New York and Paris within one hour and fly from Toronto to Australia in three hours. We were studying such a project in our 'think tank' group at Malton over 45 years ago!

If Canada is to play a role in these or other ground-breaking projects there will have to be a dramatic change in the mindset of our political masters. There is little doubt that most of our current politicians are unfamiliar with matters of science and technology, resulting in what can only be described as apathy towards the need to train our young Canadians to run with the best in the world in these areas. A case in point was the recent demise of the wonderful Canada First Robotics program which, for over a decade, had been encouraging young students from all over Canada to design innovative robotics and use them in competitive sports. Despite the dedication and enthusiasm of all of the participants, this program had to be discontinued because of lack of sufficient government support. I have been a strong advocate for engineering students to be given the benefit of 'hands-on' experience, particularly in a team environment. There is no doubt that a finely tuned and professionally competent team can achieve remarkable results in any endeavor. That was well demonstrated on the Arrow, Concorde and Apollo programs. ---So, what is my advice to you at this conference?

I have no panacea for success in these troubled times and as I recently stepped into my 90<sup>th</sup> year on the planet I realized that I was still a 'student' (albeit an ancient one) with still much to learn. There is little doubt that greater advocacy and discussion is needed between the student bodies and the politicians who, by their actions, can materially affect the future contributions that could be made by the well-educated and enthusiastic student, given the right opportunity. The CSSA can be a powerful voice toward that goal. There will certainly be no shortage of challenges for your generation and the best advice that I can give you is that you try to follow the guidelines written on a plaque behind my desk at Malton which read "If something seems worthwhile, but impossible - do it anyway."



I wish all the attendees at this important conference my very best wishes and a long, productive and exciting life, as we step into this second century of powered flight.



Jim Floyd

Former Vice-President and Director of Engineering, Avro Aircraft, Canada.

December 2003



**James Floyd**

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**From:** "Benjamin Sanders" <bsanders@engmail.uwaterloo.ca>  
**To:** <jamesfloyd@sympatico.ca>  
**Sent:** Friday, December 05, 2003 11:32 AM  
**Subject:** WOW!

Dear Mr. Floyd,

Thank you so very much for your package. I just received it and I've read it already three times! Thank you for your passionate and inspiring words. You are a personal hero for me and I know that your ideas will spark similar fire throughout the entire delegation.

I can remember watching the CBC Mini-Series with great excitement (all the ideas and Canadian ingenuity was marvelling), and also deep disappointment (in the government's horrible handling of it all). It's incredible for me to read hand-written notes from you addressed to ME!...and to have this wonderful honour of including you in our conference.

I will be sure to send you a copy of our delegate booklet when it is completed in January. I was wondering, also, if you ever have time for quick visits. Would you ever be free for a cup of tea?...I could make the arrangements to visit you wherever you may be (Etobicoke or other).

Thanks again. This really means a lot to me and to the entire organizing committee. On their behalf, please accept my deepest appreciation.

Benjamin

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This mail sent through [www.mywaterloo.ca](http://www.mywaterloo.ca)

12/5/03