

# MAE Praxair Seminar

## High Temperature Structural Composites with Polymer and Metal Matrices

*Dr. James A. E. Bell*  
Director of Research (Retired)  
Inco Limited

### *Abstract*

High temperature composites with continuous fiber reinforcement are needed for numerous applications, including airframes, rockets, launch vehicles, engine components, turbine blades and heat sinks. Conventional polymer-matrix composites with epoxy as the matrix are inadequate in their ability to withstand high temperatures. Alternate matrices such as polyimide, copper and intermetallic compounds are attractive. This seminar will cover the fabrication and physical properties of composites with these alternate matrices and with fibers including carbon and silicon carbide. The criteria for effective high temperature structural composites will be discussed.

### **Brief Bio**

Dr. Bell received his BAsC, MASc, and Ph.D. degrees in Metallurgical Engineering from the University of Toronto. He spent a long and distinguished career with Inco Limited and was Director of Research for many years. Since his retirement he has maintained his own laboratory facilities and pursued his interests in new materials.

**206 Furnas Hall**  
**Thursday, January 18, 2007**  
**Refreshments – 3:00 pm**  
**Seminar 3:30 pm – 4:30 pm**