

**Department of Mathematical & Statistical Sciences &
Department of Mechanical Engineering**

COLLOQUIUM

“CFD Applications to High Speed and Low Speed Aerodynamic Designs”

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Bombardier Aerospace

**Thursday, October 18th 2007
3:30 p.m. in CAB 657**

Abstract:

Computational Fluid Dynamics (CFD) plays an important role in aerodynamic design. In Bombardier Aerospace, CFD was used extensively in the design of the Challenger 300 aircraft, a business aircraft that first flew on August 14, 2001. CFD was also used in analysis mode to support systems installation and provide airloads. In this talk, an introduction of the aerodynamic design of fixed wing aircraft and the principal aerodynamic technologies will be given. Applications of CFD methods to aerodynamic design are discussed by presenting two case studies: Design of Challenger 300 Cruise Configuration, and the design of CRJ-900LR Winglets. The effectiveness of the CFD aerodynamic design will be demonstrated by comparing the results with wind tunnel investigations and flight-test validation.

***For those attending the Colloquium,
a reception will be held at 4:30 pm in CAB 649.***