S.O.W. - MONTREAL AEROSPACE INSTITUTE

2010 – 184

PROJECT TITLE:	Robust Compressor and Turbine Analysis and Design.
OBJECTIVE:	Improve aerodynamic analysis and design time cycles by integration of analysis codes with iSight.
WORK DESCRIPTION:	The intern will work as a member of the R&D aero thermal design team to extend the use of the commercial code Isight to optimize, integrate and automate design tasks. Compressor aerodynamic analysis requires a great deal of manual iteration which is time consuming and a potential source of human error. Using iSight, the aim is to allow part or full automation of the task. Also part of the work is implementation of modules already developed for the design and optimisation of turbines using iSight. This will involve liaison with Rolls-Royce specialists. Successful implementation will improve our design and analysis capabilities significantly and allow robust design techniques to be applied to new designs.
UNCERTAINTY OF THE WORK:	This work is in support of gas turbine design technology development. Direct Support, Scientific Research & Experimental Development.
DELIVERABLES:	Isight modules for compressor analysis Working optimization system implemented for power turbine analysis report
SCHEDULE:	May to September
NO OF HOURS:	500 hours
SUPPORTING I/O:	Interviews from R&D line supervision at Rolls-Royce Canada
SOFTWARE:	MS Office.
PRE-REQUISITE:	Working knowledge of compressors and turbines. Working knowledge of UNIX, Windows and Linux. Understanding of through flow simulation advantageous.
UNIVERSITY:	TBD
STUDENT:	TBD
PROJECT SUPERVISOR AT UNIVERSITY:	TBD
PROJECT RESPONSIBLE:	Nigel Gwilliam