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**CDT-ACM PhD Project 2019**

**Project Title: Low temperature sulphidation-related stress corrosion cracking of single crystal superalloys**

**Project Supervisors:**

Supervisor 1: Mary Ryan m.p.ryan@imperial.ac.uk <https://www.imperial.ac.uk/people/m.p.ryan>

Supervisor 2: Stella Pedrazzini s.pedrazzini@imperial.ac.uk -<https://www.imperial.ac.uk/people/s.pedrazzini>

With Prof David Rugg (Rolls-Royce), david.rugg@rolls-royce.com

Techniques involved: XANES/ synchrotron surface science, atom probe tomography, STEM-EDX, FIB-SIMS

**Short description**

The £1.4bn cracking problem on the Trent 1000 turbine blades are related to a new mechanism of sulphur-related stress corrosion cracking in nickel superalloys that had not previously been experienced in civil aero engines, which has inspired a programme of research to understand the underlying mechanisms in order to aid mitigation and resolution of the issue.