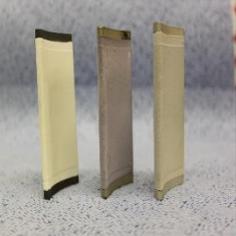
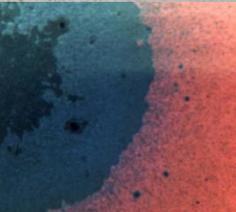


Design and characterization of a mechatronic positioning device for luminescence measurements on complex geometries



Project Type: Internship - M.Sc. thesis
Location: Greater London, UK
Basis: 6 months

Company:



Sensor Coating Systems Ltd. (SCS) is a technology company which recently moved from Imperial College London to Londoneast-UK, the newest technology park in London at Dagenham East. SCS develops sensor technology based on smart luminescence materials that measures historic peak temperatures for applications in demanding environments. The patented and award winning temperature detection technology enables the optimised operation of machinery, better equipment life-time predictions, lower fuel costs and lower CO₂ emissions and a better understanding of material integrity in high temperature environments. Main industrial sectors for application are the power generation industry, aero engines, automotive and machinery operating in extreme environments. The current team provides a strong blend of commercial and technical, world leading expertise.

The technical team received the *British Engineering Excellence Award 2013* and several other technical awards from prestigious international institutions such as the *American Society of Mechanical Engineers (ASME)* and *Institute of Mechanical Engineers (IMechE)*.

Project Description:



For automated measurements of thermal history materials, a positioning device with four or five degrees of freedom is to be designed and characterised. The device should be self-contained and self-calibrating for achieving a specific positioning accuracy. Mechanism designs will have to be developed and evaluated and a complete 3D CAD model of the device is to be realised. The developed device will be characterised for accuracy and repeatability on the measurements of gas turbine blades.

The skills to be acquired in this project will be:

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- Motor control and mechanism design for high positional accuracy.
 - Handling of lasers, detectors, and fibre optics.
 - Carrying out rigorous characterisation studies and signal analysis.

Desirable skills are:

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- Interest in mechanical design and mechatronics.
 - Experience with motor control and machine calibration.
 - Hands-on approach for component selection and testing.
 - Software skills in: CAD (Solidworks, Solid Edge), Matlab, Labview, Python

The successful candidate will work in a stimulating and demanding technical interdisciplinary environment. The project requires a practical approach with a strong emphasis on laboratory based work and also some coding.



Please send your CV, one reference and a relevant covering letter by email to Dr Jörg Feist at internship-m1-2016@sensorcoatings.com.

Closing date: ----