Fully Funded EPSRC PhD Case studentship.

Project Title: Application of advanced measurement techniques to toolmark investigation

Forensic investigation is underpinned by Locard's exchange principle: 'every contact leaves a trace'. In the case of toolmark investigation, this contact results in a plastic deformation of the substrate material which is used to determine the likelihood of a certain tool having been used in a crime.
Current examination of toolmarks relies on either greyscale imaging comparison techniques or comparison of 2D profiles gained using areal measurement techniques. There has been no published research regarding the use of the entire surface topography for the comparison/ correlation of toolmarks.
The project would focus on:

- Determining the characteristics of toolmarks and the best practice for measurement of the topography
- Exploring casting techniques used when the toolmark cannot be transported to the lab (i.e. doorframes) and the effect of casting on the fidelity of the replica
- Applying correlation techniques to the areal surface
- Analysing possible error rates in investigation

Eligibility: The student must have a high-grade qualification, at least the equivalent of a UK 1st or 2:1 class degree or MSc with distinction in Physics, Engineering or related disciplines. The student must be proficient in both written and spoken English, and possess excellent presentation and communication skills.

Salary: £15,285 (2020/21 EPSRC Standard)

Contact:
Professor Liam Blunt
Future Metrology Hub
Centre for Precision Technologies
University of Huddersfield

Tel: 01484 472037
E-mail: l.a.blunt@hud.ac.uk