

# **Laser-assisted cold-sprayed hydroxyapatite/titanium composites: evaluation for tissues engineering applications**

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## **AIMS AND OBJECTIVES**

This research work seeks to establish titanium alloys (Ti-6Al-4V), in the field of tissue engineering, as material of interest for bone replacement with a particular focus on hip implants replacement. The aim of this study was to produce a surface coating from a composite powder made of titanium and hydroxyapatite (Ti-HAP) using Laser-Assisted Cold Spray (LACS) technique on Ti-6Al-4V substrate.

The produced coatings must be characterised for:

- a) Micro-structure (porosity, cracks, etc.) using Optical Microscope (OM);
- b) Mechanical properties (Hardness) using Vickers's hardness test; and
- c) Bio-corrosion by immersing the coating into simulated body fluid.