

## **IIT-K licenses innovative bone regeneration technology to Canada-based Conlis Global**

22 February 2024 | News

### **Licensing of novel technology developed in-house that promotes bone healing and regeneration**

The Indian Institute of Technology Kanpur (IIT-K) has signed a Memorandum of Understanding (MoU) with Conlis Global Inc. for licensing of an innovative new technology that promotes bone healing and regeneration. Conlis Global Inc. is a biotechnology company based in Canada that helps to bring products from R&D to the market.

The MOU was signed by Prof. Tarun Gupta, Dean of Resources and Development IIT-K, and Dr Sumrita Bhat, CEO, Conlis Global Inc.

The technology, "Nano Hydroxyapatite-Based Porous Polymer Composite Scaffolds for Bioactive Molecule Delivery in Musculoskeletal Regeneration" has been developed by Prof. Ashok Kumar and his team from the Department of Biological Sciences & Bioengineering at IIT-K.

The novel Nano Hydroxyapatite based Porous Composite Scaffolds technology is biodegradable and has osteoinductive (bone healing process) and osteopromotive (material for new bone growth) properties for bone regeneration. They are highly biocompatible resulting in good cell material interaction with osteoblast cells (cells responsible for mineralisation of bone during bone formation and bone remodelling), exhibiting a high mechanical strength and interaction between the polymer network and the solvent.

These functionalised scaffolds can be used as fillers in large size bone defects, without compromising the connectivity and structural defects, oxygen and blood circulation thereby enhancing tissue formation, mineralization, and rapid defect healing. It can also be used as bone substitute, overcoming autograft limitations.

The primary objective of the invention is to overcome the drawbacks of the existing remedies, other alternatives have been associated with infection and immune related complications. Henceforth, this technology provides an approach for the delivery of bone active molecules, antibiotics or any other drug for combating the bone pathologies, reconstruction of irregular bone defects and for dental applications as well.