

## IIT-G researchers use silk scaffolds for bone regeneration

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A group of researchers at the Indian Institute of Technology (IIT) Guwahati has developed a scaffold made of silk composite functionalised with copper-doped bioactive glass to facilitate faster bone regeneration.

The scaffold seeded with stem cells was found to differentiate into bone cells, facilitate growth of blood vessels and successfully integrate the newly formed bone cells with the native bone.

The researchers were able to replicate the results in rabbits using functionalised non-mulberry silk composite. Rabbits with scaffolds implanted at the site of bone injury showed successful growth of bone cells and integration with the native bone at the end of three months.

The research team developed the silk composite by adding chopped silk fibre to liquid silk. Unlike pure silk, the silk composite has greater strength. The addition of bioglass further enhanced the strength of the composite.

The team plans to undertake trials on larger animals now, and is hopeful to get regulatory clearance soon.