Bone regeneration with cell-free injectable scaffolds

Our group is working in the field of tissue engineering and regenerative medicine. Specialised on bone regeneration with cell-free injectable scaffolds.
The materials we work with are hydrogels made of hyaluronic acid and injectable bone fillers containing calcium phosphates. Our aim is to develop and evaluate bone substitutes that induce bone and is highly biocompatible and resorbable. The biomaterial should induce bone regeneration and get replaced by natural bone. We have a very close collaboration with two divisions at Ångström. The Division of Polymer Chemistry with Professor Jöns Hilborn and the Division of Applied Materials Science with Professor Håkan Engqvist. This fruitful relation is taking the engineering one step closer to clinic. Where chemist and clinicians can discuss ideas and needs, creating materials that are applicable in clinic, that actually can make a difference for the patient.

We are at this point working with hydrogels made of modified hyaluronic acid. The hyaluronic acid is an ideal biomaterial, It is abundant in the extracellular matrix and it is identical in all species, By modifying the material we can derive a cross-linked hydrogel that are stable, with linked additives that have bone-inducing properties. We also work on evaluating injectable calcium phosphate cement where we in the future want to add bone-inducing factors.

You will at this lab perform real research by investigating novel materials in vitro. You will work with cell cultures and molecular biological assays. Your results will contribute to our research. If you get result, can this be a great opportunity to publish your research.

If you are interested please contact:

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