Process optimization of Zn alloy systems by Powder Bed Fusion-Laser Beam for degradable implants

Introduction:
Zinc is a promising biodegradable material because of its non-toxicity and inherent benefits to the human body. In contrast to degradable Mg alloys, Zn alloys display improved degradation properties, but inferior mechanical properties. Additive manufacturing is a viable technique for developing degradable Zn alloys implants, particularly in regards to porous scaffolds for bone grafting.

Project objectives:
The goal of this project is to optimize processing parameters for powder bed fusion-laser beam (PBF-LB) of a Zn alloy system, in order to improve mechanical properties while maintaining good degradation resistance.

- PBF-LB process optimization for simple geometries
- Microstructural analysis
- Mechanical and degradation testing

Your application should include:

- A brief letter of interest describing yourself and why you are interested in the project
- A CV (max. 2 pages)

Please send your application and interest to francesco.delia@angstrom.uu.se