Analysis of Production Process and Design of Medical Implants and Tools for Additive Manufacturing

Summary

Tallinn University of Technology, School of Engineering, Department of Mechanical and Industrial Engineering offers a 4-year PhD position in manufacturing.

Research field:	Mechanical engineering
Supervisors:	Tauno Otto Dr. Lauri Kollo
Availability:	This position is available.
Offered by:	School of Engineering Department of Mechanical and Industrial Engineering
Application deadline:	Applications are accepted between September 01, 2020 00:00 and October 02, 2020 23:59 (Europe/Zurich)

Description

Topics for Scientific Research

- Better understanding of CAD/CAM reconstruction
- Analysis and optimization of medical implant manufacturing process using 3D-scanning and additive manufacturing
- Design and design process for medical implants (implants, prostheses and orthoses)
- The use of software for the evaluation of medical implants' fixation
- Finite Element Analysis (FEM) for the evaluation of structural behavior of medical implants and medical planning
- Retrieval analysis for implant / prosthesis / orthosis - associated cause of failure
- Others as required by the supervisor (s) for the delivery of the role

Main Duties and Responsibilities

- Study design, data collection and analysis
- Attend TalTech courses and training
- Participation in relevant East-Tallinn Central Hospital case studies
- Participation in EU projects "3D Printing" and „DIH WORLD“
- Literature research
- Manuscript writing (for submission to peer-reviewed journals)
- Attend weekly research meetings
- Other duties as required by the supervisor(s) for the delivery of the role

Qualifications: Master's degree in production or corresponding qualifications

The applicants should fulfill the following requirements:

Experience in the field of:

- Industrial processes
- 3D printing of metals
- Mechanical engineering

- 3D simulations (CAD, CAM)

To get more information or to apply online, visit https://taltech.glowbase.com/positions/128 or scan the the code on the left with your smartphone.