SEMINAR

APPLIED MATHEMATICS AND MECHANICS

FS994 11 April 2024

A DCAMM seminar No. 772 will be presented by

Senior Researcher Sylvain Lefebvre
Inria – National Institute for Research in Digital Science and Technology
France

The title of the lecture is:

Controlling the appearance and deformation of objects 3D printed with fused filaments

Abstract:

This seminar will focus on how to design shapes and plates that exhibit specific behaviors thanks to a precise control of their fabrication process. Specifically, by orienting the deposition trajectories of a fused filament 3D printer, we introduce anisotropies that impact the observed properties of the final object. In one case, the orientations trigger anisotropic deformations under heat, allowing a plate to take a target curved shape. In the second case, the changes in deposition orientation trigger an anisotropic light reflectance, creating brushed-metal effects on the surface of the 3D printed object. Both approaches rely on the optimization of oscillating fields, a topic we initially explored in the context of Computer Graphics, and that naturally evolved toward fabricating shapes with anisotropic structures.

DATE: **Wednesday, 1 May 2024**

TIME: **10:00 – 10:45**

PLACE: **Building 303A, Room 045**
DTU, Technical University of Denmark

Danish pastry, coffee and tea will be served 15 minutes before the seminar starts.

All interested persons are invited.

Jan Becker Høgsberg