



SEMINAR

APPLIED MATHEMATICS AND MECHANICS

FS980

17 November 2022

A DCAMM seminar No. 761 will be presented by

Professor Zuheir Barsoum
KTH Royal Institute of Technology, Dept. of Engineering Mechanics
Stockholm, Sweden

The title of the lecture is

Digitizing Weld Quality Assurance of Welded Structures
Subjected to Fatigue Loading – Towards Industry 4.0

Abstract:

The current study presents a comprehensive overview of weld quality control and assurance of welded structures where the major failure prevention is due to fatigue loading. It gives the drawbacks and limitation of quality control systems, international weld quality standards, and guidelines used in today's weld production. Furthermore, in recent development in quality control and assurance of welded structures, a new online method is presented. The main target is to enable a complete, online evaluation of large quantities of welds in an accurate and repeatable fashion. Information gathered will not only be used for determining the weld quality level with respect to the fatigue strength but also to be evaluated for use in improved process control, in welding power sources, and robot control systems. It is verified that the new online method, a new laser scanning technology, and algorithms can successfully be used as modern tools for automated unbiased geometrical weld quality assurance and implemented in weld production environment. Today, the system is commercialized and successfully implemented in several manufacturing site, mainly within the automotive and heavy industry.

DATE: **Thursday, 1 December 2022**

TIME: **10:30 – 11:15**

PLACE: **Lamarr, Ø29-602-2, Moseskovvej 72**
SDU, University of Southern Denmark

REGISTRATION for virtual participation at the following link:

<https://syddanskuni.zoom.us/meeting/register/u5YpdO6urTkjE9E1lQnN0BytpTqLVRJenQE9>

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

All interested persons are invited.

Niels Leergaard Pedersen

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