



# SEMINAR

APPLIED MATHEMATICS AND MECHANICS

FS981

18 November 2022

A DCAMM seminar No. 762 will be presented by

**Dr.-Ing. Jörg Baumgartner**  
Fraunhofer LBF  
Germany

The title of the lecture is

**Fatigue assessment of welded joints with the notch stress approach –  
Background and current developments**

**Abstract:**

The fatigue assessment of welded joints based on local approaches is gaining more and more importance in industrial use. The advantages of these approaches are that the detailed shape of the welds, an important key factor for weld quality, can be considered in the assessment. In the first part of the presentation, the history and theoretical background of the effective notch stress approach with notch radius of 1 mm will be summarized. In the second part, further developments will be shown: first, the reference radius approach that works with reference radii smaller than 1 mm will be introduced, typically used for the assessment of welded thin sheets, second, the effective stress approach will be explained that relies on the direct application of the stress averaging approach according to Neuber or the critical distance approach according to Moore, Pederson and Taylor. In the third part, recent and upcoming implementations of the approaches in rules and guidelines are shown.

DATE: **Friday, 2 December 2022**

TIME: **9:00 – 9:45**

PLACE: **Eiffel, Ø30-603-2, Moseskovvej 72**  
SDU, University of Southern Denmark

REGISTRATION for virtual participation at the following link:

[https://syddanskuni.zoom.us/meeting/register/u51tfu6urT8uH9OnLbcJ2mKqKEGbSKN\\_oaHW](https://syddanskuni.zoom.us/meeting/register/u51tfu6urT8uH9OnLbcJ2mKqKEGbSKN_oaHW)

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

All interested persons are invited.

Niels Leergaard Pedersen

**DANISH CENTER FOR APPLIED MATHEMATICS AND MECHANICS**

- **TECHNICAL UNIVERSITY OF DENMARK**
- **AALBORG UNIVERSITY**
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