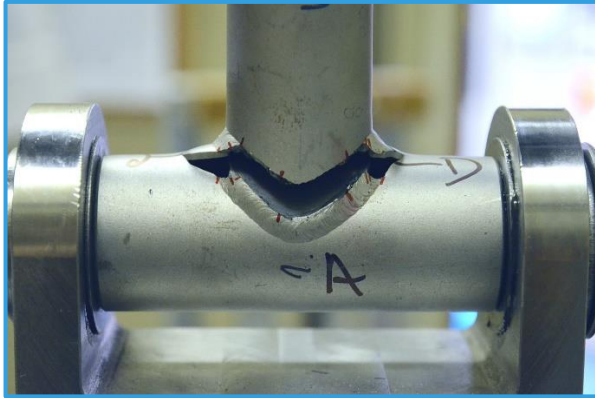


**CZECH SOCIETY
FOR MECHANICS**
UNDER AUSPICES OF
**THE FME CTU
IN PRAGUE**

HOLDS



NOVEMBER 26 - 28, 2018

WORKSHOP ON COMPUTATIONAL FATIGUE ANALYSIS 2018 FKM GUIDELINE TRAINING

**KARLOVO NÁMĚSTÍ 13
PRAGUE 2
CZECH REPUBLIC**

WEBPAGE
www.pragtic.com/FKM.php
CONTACT
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(Jan Papuga)

During last two volumes of the WCFA workshop, we announced the plan to organize some of the next volumes on the topic of the FKM-Guideline. This guideline of the German provenience is designed with the aim to serve as a safe and sufficient approach to static and fatigue analyses of common engineering structures.

The guideline is built on a long tradition of German research and standardization. Its 6th edition was released in 2012 (the English version in 2013), and the 7th edition is under preparation.

The name of Dr Roland Rennert from IMA Dresden can be found in the list of the FKM-Guideline authors (6th edition) on the first position. We are glad that he accepted our proposal to be the main lecturer during our workshop.

As usually in the case of WCFA workshops, we decided to start with a series of introductory lectures for the first day covered by Prof Milan Růžička, Dr Jan Papuga and Dr Josef Jurenka. This part serves as a quick start for those attendants, who have no or only very limited experience with fatigue prediction.

LOCATION

The meeting will be held at the building of the Czech Technical University in Prague on Karlovo náměstí (the same as in 2016 and 2017). It can be conveniently accessed by a subway, and one of its exits on Karlovo náměstí station is directly on the edge of this building. The lecture room No. 215 will host the workshop.

COURSE OPTIONS

No prior knowledge on fatigue analysis is needed. The basic principles of the common fatigue damage estimation are described in the first day, to help the complete freshmen to get on board. The content related to the FKM-Guideline is extensively discussed in next two days. To better suit needs of participants and to fit the course better to the level of their knowledge, several variants of the course are provided:

Mon Nov 26, 2018	Introduction to Fatigue (Růžička, Papuga, Jurenka)	V1			
Tue Nov 27, 2018	Non-welded structures (Rennert)	V2	V3	V4	V5
Wen Nov 28, 2018	Welded structures (Rennert)				



**ROLAND
RENNERT**
Employed:
IMA Dresden,
Germany
(1995-...)

Academia: He studied technical mechanics and made his grade at the TU Dresden.

Focus: Analytical strength assessment, measurement data analysis, fatigue strength assessment based on measured strains, load assumptions and generation of test loads.

Other:

- Long-term experience by ca. 160 industrial projects.
- Co-author of FKM-Guideline “Analytical strength assessment”
- Expert for German and European standardisation of railway vehicles.
- Leader or contributor of several national and European research projects, e.g.
 - TRISYD (2004-2007),
 - SPEEDFAT (2006-2009),
 - Mat4Rail (since 2017, <https://www.mat4rail.eu>).



MILAN RŮŽIČKA

Employed: FME CTU in Prague

(1983-.) Head of Dept. of Mechanics, Biomechanics and Mechatronics (2015-..)

Academia: He finished his Ph.D. thesis in 1984 at the FME CTU in Prague, habilitation 1999 (Doc.), 2005 (Prof.).

Prof. Růžička focuses on fatigue in notches, fatigue of welded structures, composite structures, fatigue in composites, use of optical fibres, structural health monitoring.

Other: Secretary of the Czech Society for Mechanics, program director of WCFA&PUM meetings.

LECTURES CONTENT

The complete program of the workshop will be presented during September 2018 on the workshop website www.pragtic.com/FKM.php. Only an overview of discussed topics is provided hereafter for the individual lecturing days.

More detailed information about the programme will be subsequently published during September 2018 on the workshop website.

Day 1 (Nov 26, Monday): Introduction to Fatigue:

- History of Fatigue and Fatigue Prediction Methods
- Materials Considerations; Loading Considerations
- Stress-Life Based Fatigue
- Strain-Life Based Fatigue
- Factors Affecting Fatigue Life
- Processing of Load Records
- Fracture Mechanics and Crack Propagation
- Brief Introduction to Fatigue Prediction in Welds
- Multiaxial Fatigue
- The Concept of FE Based Fatigue Analysis
- Commercial Applications; Available Data Sources.

Day 2 (Nov 27, Tuesday): FKM-Guideline on Non-Welded Components:

- General introduction into FKM-Guideline
- Static strength assessment for non-welded components
- Fatigue strength assessment for non-welded components

Day 3 (Nov 28, Wednesday): FKM-Guideline on Welded Components:

- Introduction into welded components
- Static strength assessment for welded components
- Fatigue strength assessment for welded components
- Fatigue strength assessment based on measured data (analysis of measured data and rain-flow counting)

ATTENDANCE FEE

The conference fee includes access to the lectures, printouts of the presentations, attendance certificate, meals during lunches plus drinks and meals during coffee breaks. The price for the accommodation is not included

After informing, a substitute can be sent for the registered participant, who cannot come, for no other additional cost. It is also possible to share some of the longer course variants among several employees.

Members of the Czech Society for Mechanics pay 10% less from any of the prices mentioned hereafter.

The fee is set in several versions, which can be paid either in EUR or in CZK.

The **Early Bird rate** is available to those who will pay before Sep 30, 2018, the **Regular rate** is to be paid afterwards.

The individual variants of the course composition are these (see also the table on the previous page):

Var.	Days	Date	Early Bird		Regular rate	
			EUR	CZK	EUR	CZK
V1	1	Nov 26	95	2400	105	2600
V2	2	Nov 27-28	400	10000	440	11000
V3	1	Nov 27	260	6500	285	7200
V4	2	Nov 26-27	300	7500	330	8200
V5	3	Nov 26-28	460	11500	500	12500

More details about the payment conditions can be found on the workshop website.

USED LANGUAGE

English language is the official language of the lectures.



JAN PAPUGA

Employed: FME CTU in Prague (2007-..);

Evektor, spol. s r.o. (2006-..); Fatigue Analysis RI s.r.o. (2016-2017)

Academia: He finished his Ph.D. thesis in 2006 at the FME CTU in Prague.

Focus: Multiaxial fatigue, fatigue in notches, fatigue computation methods, validation of fatigue prediction methods, experimental fatigue data aggregation and manipulation

Other: Developer of PragTic fatigue freeware (www.pragtic.com), chairman of WCFA&PUM meetings, secretary of DTMA 2011 workshop, leader of the FADOFF project (Fatigue Analysis Documentation Office in 2011-2014, www.fadoff.cz).



JOSEF JURENKA

Employed: FME CTU in Prague (2008-),

TechSim (2015-..)

Academia: Ph.D. thesis (2012) at the FME CTU in Prague.

Focus: Low- and High-cycle fatigue, Fatigue of welded structures, Fatigue crack propagation, Fracture mechanics.

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