Invitation to our Workshop for Power-Users

Effective Use of winLIFE for Complex Problems

in Niederstotzingen-Stetten near Ulm

Steinbeis-Transfer Centre
New Technologies in Traffic Engineering
Tel +49 (0)7325 3306
Fax +49 (0)7325 4992

http://www.stz-verkehr.de

Aims:
winLIFE is often used for very complex analyses where a large number of calculations are required. From version 3.0 onwards we have included very efficient software tools to reduce the required entries and speed up the processes.
Parameter studies with a large number of projects can be realized simply .There are also powerful software tools for analysing the results (partial load analysis, service factor, equivalent amplitude) which are helpful and provide the answers to complex questions with only a few mouse-clicks.
The aim of this workshop is to carry out very complex examples to show how processes can be optimized.

Requirements:
Participants should be familiar with and users of winLIFE BASIC and preferably also winLIFE MULTIAXIAL. They should have taken part in at least the BASIC Seminar or the “Structural Durability” lectures held at Aalen or Ulm University of Applied Sciences.

Procedure:
All participants are provided with a computer installed with winLIFE and FEMAP/NASTRAN. Participants may bring their own PC if preferred. Tutorial exercises are done by all participants. The necessary data is already installed and the crucial point of the problems quickly reached. .

Seminar Program

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9.00 Characteristics of the winLIFE project types: structure and use of the project types: Quick-Check, Standard, Container, fast data access with the aid of the data tree.

9.45 Break

10.00 Use of the winLIFE Project System for parameter studies:
User Exercise 1: creating project with multi-copy for a parameter study with varying fatigue strength.
User Exercise 2: defining the load files into a file which controls the whole process.

10.45 Break

11.00 User Exercise 3: for a wind energy plant there are 100 load-time functions, for which we create a container project. We will show how a single alteration has an effect on all the projects in the container and we will demonstrate the process of a fast calculation of all surface nodes in slow-motion and create the node with the highest demands, exact calculation of the 100 most critical nodes for all weighted load-time functions, calculation of the resulting utilization factor and the rainflow matrix.

12.15 Lunch

13.30 Showing the results as a graph with Vierwer4winLIFE, Showing the results as a graph in FE programs (FEMAP is used as is installed on each PC)

14.30 Handling of load data:
Flexible input of load data in chart-form from various sources (FAMOS, Matlab, ASCII).
User Exercise 4: Measured data from the program FAMOS.

15.15 Break

15.30 Creating templates with the aid of winLIFE CDI (**C**ustom **D**esignable **I**nterface) for data transfer from FEA.
User Exercise 5: from an ANSYS ASCII-file a template is created which enables winLIFE to automatically input this data. The user can therefore write interfaces for any required FEM programs, provided these can write an ASCII-file.

16.30 Discussion

17.00 End

Organisational Details:

Time: from 9 AM to 5 PM

Place: Hotel Zum Mohren, Familie Dörflinger, Oberdorfstrasse 31, 89168 Niederstotzingen-Stetten, Tel. +49 (0)7325 92247-11, Fax. +49 (0)7325 92247-12, info@lonetalhotel.de, www.lonetalhotel.de

It is also possible to reach us by train. The nearest railway station is Niederstotzingen.

There are enough PCs for all the participants.

Cost: 630 € + VAT

Registration: Due to limited space, we can only accept a maximum of 10 participants. All applications are binding. As soon as we have received your application, we will send you confirmation and an invoice which we would ask you to pay as soon as possible.

Overnight Stays: We recommend the conference hotel where the course is held: Zum Mohren, Oberdorfstrasse 31, 89168 Niederstotzingen-Stetten, Tel. +49 (0)7352 92247-11, Fax. +49 (0)7325 92247-12, info@lonetalhotel.de, www.lonetalhotel.de

Organising Company: Steinbeis Transfer Centre New Technologies in Traffic Engineering, Tel.: +49 (0)7325 3306, Fax. +49 (0)7325 4992

Lecturers: Prof. Dr.-Ing. G. Willmerding and Mr. Jakob Häckh MSc

Aims: To provide the participants with knowledge of fatigue life calculations of dynamically loaded components with multiaxial loads. We cover the basic theory of multiaxial fatigue life analysis and calculate examples using winLIFE. Test results exist for all the calculation examples we do and this enables the participant to assess the accuracy.

Requirements*:* The knowledge gained in the winLIFE-BASIC Seminar is essential for this course. This Seminar is therefore only recommended for participants who have already attended the winLIFE-BASIC Seminar.

Seminars:
Three times a year:
- winLIFE–BASIC (2 x German, 1 x English)
- winLIFE-MULTIAXIAL (2 x German, 1 x English)

Once a year
- FKM-guideline: static strength and dynamic fatigue prove (German, English on request)
- Power-User: Effective use of winLIFE for complex problems (German, English on request)
- Crack Growth and Random Fatigue (German, English on request)

The -Modules

The **-Modules** can be used in conjunction with finite element programs such as *NASTRAN* for Windows, *IDEAS, SAMCEF, WTP 2000* and, with the help of *FEMAP,* with all standard FE programs. Measured data can be transferred from several programs (*LMS Roadrunner, winEVA*). The interfaces are documented in such a way that they can be programmed by the customer.

QUICK CHECK: static strength analysis and fatigue analysis according to FKM-guideline for non-welded components, welded components can be analysed by a hot spot search (not according FKM)

BASIC: is for the basic procedures of fatigue life analysis.

MULTIAXIAL is for calculating special problems where the direction of principal stress is not consistent. This program is an extension to the BASIC module and is for solving the most difficult of problems.

GEAR WHEELS and BEARINGS is for calculating gear wheels and bearings according to standard calculation procedures without finite elements. It is designed to transfer data from the program to our drive train simulation program winEVA and the measuring programs winADAM and DIANA.

CRACK PROPAGATION: You can calculate the crack growth of a component according to established theories.

RANDOM: Based on a given acceleration of a component in g2/Hz (PSD-spectrum) the stress PSD is calculated and a fatigue calculation performed.

Applications

has been sold to more than 240 customers and is used in the automobile, military and engineering industries, ship building, wind energy, mining industry, planning and universities.

Short Description / Demo-Version

Steinbeis-TZ Verkehrstechnik, Rosenstr. 5, 89168 Niederstotzingen
Tel.: 07325 3306 email: guenter.willmerding@t-online.de

Registration

Please send this page by post to:

Steinbeis Transfer Centre
New Technologies in Traffic Engineering
Rosenstr. 5
89168 Niederstotzingen

Or fax to: +49 (0)7325 4992.

Registration for the Seminar

Power User Workshop

on _____

This application is binding.

After receiving the registration confirmation and the invoice, the applicant agrees to transfer the seminar fee of 630 € + VAT to our bank account at the Volksbank Brenztal eG IBAN DE92 6006 9527 0063 7300 06 BIC Code: GENODES1RNS

When we receive your registration form we will send you confirmation within three days.

Surname_____

First name_____

Title_____

Company_____

Dept._____

Street_____

Post code _____Town_____

Tel_____

Fax_____

Email_____

Date_____Place_____

Signature _____

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