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#### 4. «Remaining Fatigue Life of Steel Structures» IABSE Workshop: Lausanne, Switzerland, April 4 – 6, 1990

Many countries are preparing guidelines for evaluating structures and in particular, for assessment of remaining fatigue life. Much information is available relating to many aspects of this problem. Nevertheless, some subjects need further research and the relative influence of individual parameters is not well understood.

The main objective of this Workshop is to facilitate an exchange of information related to remaining lives of fatigue-loaded structures. The Workshop should cover the themes listed below. Important parameters shall be identified, and concepts for assessment of remaining fatigue life shall be discussed.

All participants will be expected to contribute with oral presentations and written proceedings. The Workshop will also include active discussion in small groups. The language will be English.

Following themes and topics with particular reference to the question of remaining fatigue life are proposed:

##### Theme A: Loads and load models

- assessment of previous loading
- evaluation of future loads
- development of load models
- relations between measurement, load models and design guidelines such as codes and specifications
- dynamic load factors

##### Theme B: Behaviour of material

- assessment of variable-amplitude stresses
- application of linear damage accumulation
- time dependent material behaviour
- fracture
- special properties of obsolete steel and wrought iron

##### Theme C: Assessment of remaining fatigue life

- crack locations
- use of static models
- deformation induced stresses
- consideration of multi-axial stresses
- use and assessment of measurements
- deterministic and probabilistic models for assessment
- reliability analysis of existing structures

##### Theme D: Inspection and maintenance

- criteria to determine inspection intervals
- crack detection
- crack monitoring
- repair
- reinforcement.

The Workshop will be held at the Swiss Federal Institute of Technology in Lausanne. The number of participants is limited.

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