



# 5<sup>th</sup> World Congress of Biomechanics

incorporating the  
15<sup>th</sup> Congress of the European Society of Biomechanics  
31<sup>st</sup> Congress of the Société de Biomécanique  
4<sup>th</sup> ESEM International Symposium on Microdamage

## Workshop Topics - Abstract Titles

On the following pages, you can find the abstract titles and authors of the workshops, according to their workshop main topic.

The List is not yet complete, further topics will be added as soon as possible.





# Workshop 1: 11.00h - 16.00h

## The Finite Elements Method in Biomedical Engineering, Biomechanics and Related Field

### FE-Analyse des Knochenwachstums um enossale Zahnimplantate mit und ohne Knochenverdichtung

M. Flach\*

\**Fachhochschule Koblenz*

### Finite element simulation of skeletal muscle behaviour under tetanic and non-tetanic conditions

M. Böhl\*, S. Reese\*

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### Different forms of material damping in a model of the middle ear

M. Bornitz\*, T. Zahnert\*, H.J. Hardtke\*\*

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\*\* *Dept. of Solid State Mechanics, Technical University Dresden*

### Finite Element Analysis of a New Proximal Femoral Nail (PFN-A)

P. Helwig\*, G. Faust\*\*, U. Hindelang\*\*\*, B. Kröplin\*\*, N. Südkamp\*

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\*\**Institut für Statik und Dynamik der Luft- und Raumfahrtkonstruktion, Universität Stuttgart*

\*\*\**LASSO Ingenieurgesellschaft, Leinfelden-Echterdingen*

### Influence of Periodontal Ligament on Initial Tooth Mobility: A FEM Study

A. Hohmann\*, C. Kober\*\*, P. Young\*\*\*, M. Geiger\*, A. Boryor\*, C. Dorow\*, C. Sander\*, F.G. Sander\*

\**Dept. of Orthodontics, University of Ulm, Germany*

\*\**Faculty of Engineering and Computer Science, Univ. of Applied Science Osnabrueck*

\*\*\**School of Engineering, Computerscience & Mathematics, Univ. of Exeter, UK*

### Dental vs mandibular biomechanics: the influence of the PDL on the overall structural behaviour

C. Kober\*, B. Erdmann\*\*, C. Hellmich\*\*\*, S. Stuebinger<sup>^</sup>, R. Sader<sup>°</sup>, H.F. Zeilhofer<sup>^</sup>

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**Study of the interaction between geometry and mechanical behaviour of a lumbar spine model – consequence on the validation**

J. Noailly\*, D. Lacroix\*, J.A. Planell\*, H. Schmidt\*\*, F. Heuer\*\*, H.J. Wilke\*\*

*\* Reference Center for Bioengineering of Catalonia, Biomaterials and Biomechanics Division, Department of Materials Science, Universitat Politècnica de Catalunya, Spain*

*\*\* Institute of Orthopaedic Research and Biomechanics, Univ. of Ulm, Germany*

**Simulation of fracture healing in metaphyseal bone**

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*\*\*Dept. of Bioengineering, Imperial College, London UK*

*\*\*\*Biomechanics Research Laboratory, Trauma Center Murnau, Germany*

**The finite Element Methods in Minimal Access Surgery**

C. Song\*

*\*Dept. of Surgery & Molecular Oncology, Ninewells Hospital and Medical School, University of Dundee, Scotland*

**Stress Distribution and Displacement Analysis during an intermaxillary Disjunction – a three dimensional FESA Study of human skull**

A. Boryor\*, M. Geiger\*, A. Hohmann\*, A. Wunderlich\*\*, F. Günter Sander\*

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