

# *Dental Biomechanics*

*Edited by  
Arturo N Natali,  
University of Padova,  
Italy*

- This book represents a first general approach to dental biomechanics
- Offers a multi-disciplinary description of dental problems concerning dental devices and materials, biological tissues and clinical activity, with specific reference to biomechanical aspects
- Useful not only to bioengineers but also to clinicians



April 2003: 256x174: 360pp: 153  
diagrams, 38 photos and 16 tables  
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2. Mechanics of Periodontal Ligament *M. Nishihira*, Akita University, Japan, *K. Yamamoto*, Hokkaido University, Japan, *Y. Sato*, Hokkaido University, Japan, *H. Ishikawa*, Fukuoka Dental College, Japan and *A.N. Natali*, University of Padova, Italy
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# Dental Bio

**Arturo N Natali** is Professor of Industrial Bioengineering at the University of Padova, Italy. He has written extensively on the mechanics of biological materials, particularly in the formulation of numerical methods addressed to the analysis of biomechanical behaviour in hard and soft tissues.



6. Dental Devices in Titanium-based Materials Via Casting Route *F. Bonollo, A.N. Natali and P.G. Pavan*, all at the University of Padova, Italy
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9. Clinical Procedures in Orthodontics *G. Garattini and M.C. Meazzini*, both at the University of Milan, Italy
10. Numerical Approach to Dental Biomechanics *A.N. Natali and P.G. Pavan*, both at the University of Padova, Italy
11. Mechanics of Materials *A.N. Natali and P.G. Pavan*, both at the University of Padova, Italy and *E.M. Meroi*, IUAV, Venice, Italy

# mechanics

*Dental Biomechanics* provides a comprehensive, timely and wide-reaching survey of the relevant aspects of biomechanical investigation within the dental field. Leading the reader through the mechanical analysis of dental problems, both in dental implants and in orthodontics, as well as natural tooth mechanics, *Dental Biomechanics* covers an increasingly important and popular subject area and addresses a number of contemporary discussions including:

- hard and soft tissue mechanics, as cortical or trabecular bone and periodontal ligament respectively
- relief procedures by using computer tomography, evaluating image processing techniques and pre surgical activity
- dental materials, with regard to implants and to titanium cast devices, reporting on metallurgic problems and on implant surface treatments
- mechanical testing procedures for reliability evaluation of dental devices
- relevant aspects of clinical practice with reference to biomechanical problems
- orthodontic treatments in relation to the mechanical characteristics of orthodontic appliances
- numerical modelling in dental biomechanics, highlighting the relevance of this approach for the investigation of dental problems
- mechanics of materials

A unique book, *Dental Biomechanics* will be of interest to all bioengineers and clinicians and presents a multidisciplinary approach to dental biomechanics based on mechanical, clinical and chemical-physical knowledge

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