Università degli Studi di Pavia
Structural Mechanics Department – Biomedical Engineering

Computational biomechanics

Dr. Matthieu De Beule*

LECTURES

Within the Biomechanics course (Bachelor degree)

Tuesday 20/5 Finite Element Stent Design I
Introduction to stenting and the role of numerical simulations to improve these devices
Wednesday 21/5 Finite Element Stent Design II
Introduction to carotid stenting and biodegradable stents
Tuesday 10/6 pyFormex and computational mandibular osteotomy surgery
pyFormex is opensource software under development at IBiTech, particularly useful in design of (medical) devices and for optimization of surgical procedures. As an example, its use in mandibular osteotomy surgery is demonstrated
Wednesday11/6 Foot/ankle and knee biomechanics

Within the Modeling of Biological Materials course (master course)

Tuesday 20/5 Experimental biomechanics I
Development of an experimental set-up to test the radial stiffness of stents
Wednesday 21/5 Experimental Biomechanics II
Development of an experimental set-up to test the radial stiffness of stents
Tuesday 10/6 pyFormex I
Introduction to geometrical modeling with opensource pyFormex design software (1 pc/laptop per 2 students required)
Wednesday 11/6 pyFormex II
Introduction to geometrical modeling with opensource pyFormex design software (1 pc/laptop per 2 students required)

Lectures will be given in the engineering classrooms. For informations contact Michele Conti (micheleconti82@gmail.com)

*Dr. Matthieu De Beule is a post-doc at IBiTEch, Ghent University, Belgium and is mainly interested in computational biomechanics. His research focuses on the design of medical devices (e.g. stents) and the optimization of surgical procedures.