

# Recordings



**TIMING** *First day, First session:* <https://youtu.be/wPh3D0lcp5Y>

- 0:00 Welcome – Introduction  
*Prof. M. Rossetto (Chair of Department of Mechanical and Aerospace Engineering – Politecnico di Torino)*  
*Prof. C. Bastien (Coventry University)*
- 12:41 Keynote: “Automation in image segmentation and interpretation: traditional and new intelligent architectures”  
*Prof. F. Molinari (Department of Electronics and Telecommunications – Politecnico di Torino)*
- Impact Biomechanics, Automotive Safety**
- 45:38 From accident data to driver injury prediction  
*C. Bruna-Rosso, W. Wei, T. Serre, P.-J. Arnoux*
- 1:00:29 Kinematics evaluation of female head-neck model with reflexive neck muscles in low-speed rear impact  
*I.P.A. Putra, J. Iraeus, J. Fice, M.Y. Svensson, A. Linder, R. Thomson*
- 1:16:10 A method to calculate brain AIS trauma score from a finite element model  
*C. Bastien, C. Sturgess, H. Davies, R. Wellings*
- 1:30:15 Positioning methodologies of finite element human body models  
*D. Fiumarella, F. Germanetti, G. Belingardi, A. Scattina*
- 1:45:40 Computational study on extra-articular knee structures preventing the anterior cruciate ligament from re-rupturing using the GHBMCM50-PS  
*M. Boljen, F. Blanke*
- 02:02:34 Questions & Answers

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**TIMING** *First day, Second session:* <https://youtu.be/rCbj-rhWvGM>

0:00 Sponsor Keynote: Digital Orthopaedics

## **Advances in Human Modelling**

45:30 3DOrthoTwin: highly automatic generation of subject-specific foot finite element models  
*E. Morales-Orcajo, A. Stenti, A-X. Fan, A. Balabanis, S-Y. Ye, T. Leemrijse, P.-A. Deleu, B. Ferré, E. Lété*

1:00:53 Urolab - a computational tool to assist on the numerical analysis of the urinary system  
*V. Monteiro, K. Moerman, W. Adriano*

1:10:46 Questions & Answers

## **Spine traumatic and therapeutics " - iLab-Spine Workshop**

1:24:36 Pattern of disco-ligamentous injuries influences spinal cord stresses and strains in post-traumatic flexion  
*M-H. Beauséjour, E. Wagnac, P.-J. Arnoux, Y. Petit*

1:39:10 Biomechanical comparison of spinal cord compression types occurring in Degenerative Cervical Myelopathy  
*S. Lévy, G. Baucher, P.-H. Roche, V. Callot, M. Evin, P.-J. Arnoux*

1:55:56 Questions & Answers

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- TIMING**    **Second day, First session:** <https://youtu.be/PUDEaKud3yU>
- 0:00        Keynote: “Knee Biomechanics Analysis and 3D modelling: to close the gap between surgeons and engineers”  
*Prof. Bernardo Innocenti (Université Libre de Bruxelles)*
- Artificial Intelligence**
- 37:30        Efficient pre-simulation method for human body model with Odyssee  
*N. Ichinose, N. Taki, M. Takeda*
- 53:47        Improve walking performance with Machine Learning  
*D. Salin, K. Kayvantash*
- 1:06:43      ML and ROM techniques for Biomedical / Biomechanical predictions based on CAE models or MRI Images  
*K. Kayvantash*
- 1:26:06      Questions & Answers
- 1:36:30      Sponsor Keynote: “Human Body Model Positioning Using the Oasys LS-DYNA Environment” by Arup

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**TIMING**      **Second day, Second session:** <https://youtu.be/iM1helrWu2c>

0:00            Sponsor Keynote: MSC Software

## **Design, Simulation and Optimisation**

- 43:56            An optimization study of hemodialysis arterio-venous grafts design to reduce vascular access risk of failure  
*G. De Nisco, K. Siciliano, P. Tasso, M. Lodi Rizzini, V. Mazzi, K. Calò, M. Antonucci, D. Gallo, U. Morbiducci*
- 56:38            Lower leg biomechanics and ski boot: computational approach  
*C.G. Fontanella, I. Toniolo, E.L. Carniel*
- 1:07:58        Artery in Microgravity: a compact in vitro testbench for cardiovascular flow analysis in space  
*E. Torta, O. Draysonb, N. Bernardini, A. Bakkali Abderrahaman, B. Dalfó Ferrer, S. Gabetti, M. Compin, U. Morbiducci*
- 1:23:25        Interfacial stress assessment of a dental system: from MicroCT to FE model  
*M. Muggeo, A. Baldi, N. Scotti, L. Peroni, A. Scattina*
- 1:38:58        Osteoporotic Hip Augmentation with bone cement injected along curved canals  
*M-E. Santana Artiles, D.T. Venetsanos*
- 1:59:35        Questions & Answers
- 2:21:18        Closure  
*Dr. K. Kayvantash (CADLM)*