“Muscle and Tendon Tissue Engineering: A bioinspired and System of Systems vision?”

November 22-23, 2018

An international workshop & symposium

University of Technology of Compiègne, France
Centre d’Innovation (CI)
Aim of the workshop & symposium

Tissue Engineering and regenerative medicine require a variety of skills (engineers, scientists (Biology, Biochemistry, Physiology, Materials Science, Biomechanics), and physicians) as well as a variety of tools (cells, biomaterials and suitable biochemical and physical factors) to develop biohybrid substitutes mimicking the native tissues. This final outcome of this exciting and very promising field is the replacement and/or the regeneration of diseased or injured tissues in Human.

The present workshop is focused on tissue engineered reconstructions of both tendon and skeletal muscle tissues, as well as of the myotendinous junction (MTJ), which is a key element for further implantation: from cells to functional tissue going through biomaterials.

The main objective of this Workshop is to gather the top experts on Muscle & Tendon Tissue Engineering, and allow them to share their knowledge and expertise with young and new researchers and stakeholders from different disciplines. The Workshop is envisaged to be the platform for communications, existing and new collaborations, solving problems, and thinking ‘out of the box’.

Workshop organisation:

- Dr Cécile Legallais, UTC, UMR 7338 CNRS Biomécanique et Bioingénierie (BMBI)
- Dr Jean-François Grosset, UTC, UMR 7338 CNRS Biomécanique et Bioingénierie (BMBI)
Detailed scientific program

Thirteen presentations: 15-20min each followed by 5-10min questions

Thursday, 22 November, 2018

1:30 – 1:45 pm  Welcome coffee
1:45 – 2:00 pm  Welcome addresses

2:00 – 2:25 pm  Biomaterials in Tendon and Skeletal Muscle Tissue Engineering: Current Trends and Challenges.  
**Dr Cécile Legallais**, Université de Technologie de Compiègne (UTC, Laboratoire de Biomécanique et Bioingénierie (BMBI), Compiègne, France.

2:25 – 2:50 pm  Understanding tendon development to build an in vitro tendon.  
**Dr Delphine Duprez**, Université Pierre et Marie Curie (UPMC), Laboratoire de Biologie du Développement (LBD), Paris, France.

2:50 – 3:15 pm  Tendon biomechanics.  
**Pr Peter Magnusson**, University of Copenhagen, Institute of Sport Medicine Copenhagen (ISMC), Copenhagen, Denmark.

**Pr Claire Stewart**, Liverpool John Moores University, Faculty of Science, Stem Cells, Ageing and Molecular Physiology Unit, Liverpool, United Kingdom.

3:40 - 3:55 pm  Coffee break

**Dr Nasser Al-Shanti**, Manchester Metropolitan University, School of Healthcare Science, Division of Biomedical Sciences, Manchester, United Kingdom.

4:20 – 4:45 pm  New concepts for bioartificial organs and tissue regeneration.  
**Pr Dimitrios Stamatialis**, Department of Biomaterials Science and Technology, Technical Medical Centre, University of Twente, Enschede, The Netherlands.

4:45 – 5:10 pm  Electrospinning is the answer, but what was the question? A versatile technique to fabricate 3D scaffolds.  
**Pr Birgit Glasmacher** (B. Glasmacher, A.L. Hoheisel, M. Bode, Marc Müller), Institute for Multiphase Processes, Faculty for Mechanical Engineering, Leibniz University Hannover, Hannover, Germany.
Friday, 23 November, 2018

8:15 – 8:30 am  Welcome coffee

8:30 – 8:55 am  Controlled deposition of electrospun nanofibers: Towards 2D and 3D microstructured functional membranes for biomedical applications. 

8:55 – 9:20 am  Multi-scale approach to reconstruct a bioartificial system of systems: The example of the muscle-skeletal system continuum – Part 1. 
Alejandro Garcia-Garcia (PhD student), Université de Technologie de Compiègne (UTC, Laboratoire de Biomécanique et Bioingénierie (BMBI), Compiègne, France.

9:20 – 9:45 am  Multi-scale approach to reconstruct a bioartificial system of systems: The example of the muscle-skeletal system continuum – Part 2. 
Megane Beldjilali-Labro (PhD student), Université de Technologie de Compiègne (UTC, Laboratoire de Biomécanique et Bioingénierie (BMBI), Compiègne, France.

9:45 – 10:10 am  The importance of the microcirculation in muscle function and plasticity. 
Pr Hans Degens, Manchester Metropolitan University, School of Healthcare Science, Division of Physiology & Reconstructive Science, Manchester, United Kingdom.

10:10 – 10:25 am  Coffee break

10:25 – 10:50 am  In vivo Non-exercise micro-interventions to combat sarcopenia. 
Dr Gladys Onambélé, Manchester Metropolitan University, School of Healthcare Science, Department of Exercise and Sport Science, Manchester, United Kingdom.

10:50 – 11:15 am  Tendon and ageing 
Dr Christian Couppé, University of Copenhagen, Institute of Sport Medicine Copenhagen (ISMC), Copenhagen, Denmark.

11:15 – 12:30 am  Laboratory visit + Microscopy Services and Facilities