

École doctorale Innovation thérapeutique

« du fondamental à l'appliqué »

Tissue and organ bioengineering, April 22nd -24th , 2020

This teaching is part of the ED therapeutic innovation available courses.

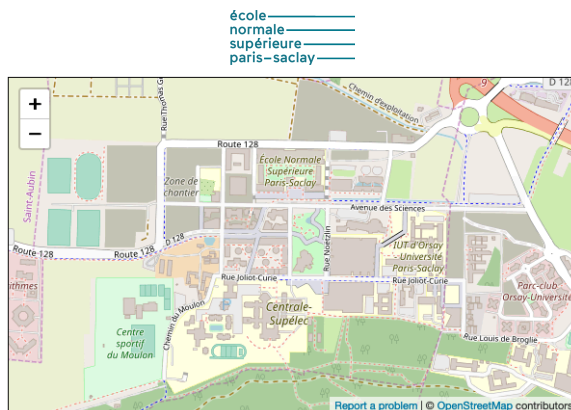
Last achievements about tissue and organ engineering, and associated technologies (like bioprinting, scaffold recellularization, organ on chip...) will be presented.

Talks from the best specialists in the domain will be given (Clinicians,, INSERM & CNRS researchers, Professors from world top universities, industries,..). The workshop will take place in Paris-Saclay University, at Ecole Normale Supérieure Paris-Saclay (april 22nd), Centrale-Supelec (April 23rd), and Ecole Polytechnique (April 24th)

Inscriptions: aurelia.ferri@aphp.fr

How to go ENS Paris-Saclay (day 1, April 22nd):

<https://ens-paris-saclay.fr/lecole/venir-lecole>



How to go CENTRALE SUPÉLEC (day 2, April

23rd): <https://www.centralesupelec.fr/fr/nos-campus>



How to go X - Polytechnique (day 3, April 24th):

<https://www.polytechnique.edu/fr/accesetorientation>



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Module : *Tissue and organ bioengineering*
22 April to 24 April 2020

Organisation Committee: Jean-Charles Duclos-Vallée – Bruno Le Pioufle
Abdul Barakat – Dominique Franco – Emmanuel Odic

Administrative assistant/inscription : Aurélia FERRI,
+33 1 45 59 34 33, Mail : aurelia.ferri@aphp.fr

Wednesday April 22 – Cells / Spheroids / Organoids – Industrial production of mature cells – Matrix and Scaffolds – Bioprinting

09h00 : *Welcome and introduction*

Cells / Spheroids / Organoids

09h15 – 10h00 : How to produce them – **Robert Passier**
(Twente University, Netherlands)

10h00 – 10h30 : Spheroids : Liver models – **Antonietta**
Messina (Inserm, UMR 1193)

Industrial production of mature cells

10h30 – 11h00 : – Automating stem cell differentiation- **David**
Hay (MRC – Centre for Regenerative
Medicine, University of Edinburgh)

11h00 – 11h15 : *Coffee break*

11h15 – 11h45 : Round table with industrials – **GoLiver**
Therapeutics / Biopredic / Cyprio/
Treefrog Therapeutics

Matrix and scaffolds

11h45 – 12h15 : Hydrogels – **Jérôme Sohier** (INSA Lyon)

12h15 – 13h15 : *Lunch*

13h15 – 13h45 : 3D porous scaffolds – **Teresa Simon-Yarza**
(Inserm UMR 1148)

13h45 – 14h30 : Recellularization – **Pedro Baptista** (Aragon
Health Sciences)

14h30 – 15h00 : *Coffee break*

Bioprinting

15h00 – 15h45 : Bioimpression Technologies – **Christophe**
Marquette (UMR 5246, Lyon 1)

15h45 – 16h15 : Photopolymerization technology – **Pierre**
Nassoy (UMR 5298, Bordeaux)

Thursday April 23 : On-Chip strategies, Extracorporeal system

On-chip strategies

09h00 – 09h30 : Spheroids in digital microfluidics – *Charles Baroud (Institut Pasteur)*

09h30 – 10h00 : Liver on chip – *Yasuyuki Sakai (Tokyo University)*

10h00 – 10h30 : Coffee break

10h30 – 11h00 : Vascular System – *Abdul Barakat (Polytechnique)*

11h00 – 11h30 : Organ on chip : from development to clinical applications – *Stéphanie Descroix*

11h30 – 12h00 : Predictive toxicology – *Jacques Richard (Sanofi)*

12h00 – 13h30 : Lunch

Extracorporeal Systems

13h30 – 14h15 : Spleen – *Pierre Buffet/ Camille Roussel (INTS)*

14h15 – 15h00 : Lung *Olaf Mercier (CCML)*

15h00 – 15h15 : Coffee break

15h15 – 16h00 : Liver – *Cécile Legallais (UTC)*

16h00 – 16h30 : Blood Brain Barrier – *Frank Yates (CEA Fontenay aux Roses)*

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Friday April 24 : Pre-Clinical applications, Regulation / Economics, Ethics

Pre /Clinical applications

09h00 – 09h30 : Vessels reconstruction – *Yukiko Mastunaga (Université de Tokyo)*

09h30 – 10h00 : Skin reconstruction – *Marina Trouillas (IRBA)*

10h00 – 10h30 : Tracheal reconstruction – *Emmanuel Martinod Hôpital (Avicenne Hospital)*

10h30 – 11h00 : Coffee break

11h00 – 11h30 : Bioengineering of vascularized composite tissues – *Jérôme Duisit (Université Catholique de Louvain)*

11h30 – 12h00: Retinal Reconstruction – *Olivier Goureau (Institut de la Vision)*

12h00 – 13h15 : Lunch

Regulation / Economics

13h15 – 14h15 : Réglementation – *Najet Yagoubi (Faculté de Pharmacie, Paris-Saclay)*

14h15 – 14h45 : Economics of Fabrication – *Etienne Bur (Institut Français de Biofabrication)*

14h45 – 15h15 : Coffee break

Ethics

15h15 – 16h00 : Ethics – *Hervé Chneiweiss (Inserm)*