

NAME

**Luca Urbani, PhD**

POSITION TITLE

- **Principal Investigator**  
Liver Regeneration Group, Institute of Hepatology London, Foundation for Liver Research,  
111 Coldharbour Lane, SE5 9NT London.
- Honorary Senior Lecturer, King's College, London, UK.

PERSONAL STATEMENT/CAREER SUMMARY

Throughout his research career, Dr Luca Urbani has gained experience in a range of multidisciplinary topics within tissue engineering.

Dr Urbani earned his BSc-MSc in Pharmaceutical Chemistry and Technology and a PhD in Tissue Engineering and Regenerative Medicine at the University of Padua, Italy. As a postdoctoral fellow, he studied the heterogeneity of skeletal muscle stem cells and their behavior in hypoxic conditions. He also established a successful cell therapy treatment for the functional recover of a muscle atrophy mouse model with amniotic fluid stem cells.

He moved to the United Kingdom in 2012 for a Research Associate position in the Great Ormond Street Institute of Child Health at the University College of London (UCL). His research activity was focused on the study of extracellular matrix in tissue engineering with the aim of translating basic research to the bed side as quickly as possible. These included: engineering of the trachea, liver, gut, kidney, skeletal muscle, lung, pancreas, bladder, blood vessels and oesophagus. Dr Urbani studied the development and cell-engineering of decellularised matrices publishing 15 original scientific articles on this topic, including the development of whole-organ decellularization of rat and human liver. In 2014, he coordinated a translational research project focusing on the engineering of artificial oesophagus for use in paediatric malformations, using decellularized scaffolds, different cell types cultured in custom bioreactors to generate structural integrity and function. He received the Young Investigator Award at the ISCT 2017 Conference (International Society for Cellular Therapy) for this study.

In 2017, Dr Urbani has become Principal Investigator of the Liver Regeneration Group at the Institute of Hepatology, Foundation for Liver Research, London. His research is focused on studying the cross-talk between the liver extracellular matrix and hepatic and cancer cells to generate novel 3D bioengineered liver systems with structural integrity, metabolic and immunological functionality for disease modelling and liver regeneration.

Author and co-author of 33 scientific papers.

RECENT PUBLICATIONS

Urbani L, Maghsoudlou P, Milan A, Menikou M, Hagen CK, Totonelli G, et al. (2017) Long-term cryopreservation of decellularised oesophagi for tissue engineering clinical application. PLoS ONE 12(6): e0179341. <https://doi.org/10.1371/journal.pone.0179341>.

Mazza G, Al-Akkad W, Telese A, Longato L, Urbani L, Robinson B, et al. (2017) Rapid production of human liver scaffolds for functional tissue engineering by high shear stress oscillation-decellularization. Sci Rep. 2017 Jul 17;7(1):5534. doi: 10.1038/s41598-017-05134-1.

Maghsoudlou P, Georgiades F, Smith H, Milan A, Shangaris P, Urbani L, Loukogeorgakis SP, et al (2016). Optimization of liver decellularization maintains extracellular matrix micro-architecture and composition predisposing to effective cell seeding. Plos One 2016 May 9;11(5):e0155324.

Urbani L, Piccoli M, Alvarez-Fallas ME, Franzin C, Dedja A, Bertin E, Zuccolotto G, et al (2016). Improvement of diaphragmatic performance through orthotopic application of decellularized extracellular matrix patch. *Biomaterials*. 2016 Jan;74:245-55.

Mazza G, Rombouts K, Rennie Hall A, Urbani L, Vinh Luong T, Al-Akkad W, Longato L, et al (2015). Decellularized human liver as a natural 3D-scaffold for liver bioengineering and transplantation. *Sci Rep*. 2015 Aug 7;5:13079.