

Marc Ferrer

Director, 3-D Tissue Bioprinting Laboratory,
National Center for Advancing Translational Sciences
TPAC member since 2020

Dr. Marc Ferrer is the director of NCATS' intramural 3-D Tissue Bioprinting Laboratory (3DTBL), within the Division of Preclinical Innovation. The NCATS 3DTBL is a multidisciplinary group of bioengineers, assay development scientists, and drug discovery experts that harnesses the breadth of microphysiological systems, including spheroids, organoids, bioprinted tissues and tissues- and organ-on-chip, in a fit-for-purpose approach, to create 3D tissue models "in a well" for efficacy and safety drug testing in early discovery and preclinical development. The 3DTBL functions as an advanced research technology hub that works with the biomedical community to establish the biological and pharmacological validity of 3D tissue models, their robustness and reproducibility as phenotypic assay platforms, and demonstrates their utility and impact as predictive assays for drug discovery and development.

Previously, Ferrer was a biology team lead at the NCATS Chemical Genomics Center (now the Early Translation Branch), where he worked with academic investigators to implement high-throughput screening and medicinal chemistry programs for the discovery of small-molecule probes. During his research career, he has gained extensive experience in the implementation of target and phenotypic-based high-throughput screens using a broad range of technologies, from biochemical to reporter gene, multiplex cell imaging and gene expression cell-based assays. He also has developed and implemented innovative assay and screening paradigms for drug discovery, including the use of stem cells and primary cells for drug screening, as well as implementing a matrix-based screening platform for the discovery of drug combinations.

Before joining the NIH Chemical Genomics Center in 2010, Ferrer worked at Merck Research Laboratories, where he began in 1999 and ultimately became the director of assay development and high-throughput screening in the Department of Automated Biotechnology.

Ferrer earned his bachelor's degree in organic chemistry from the University of Barcelona, Spain, and received his doctorate in biological chemistry from the University of Minnesota. His postdoctoral fellowship was at Harvard University, where he used structure-based chemical approaches to develop anti-HIV small molecules.

Dr. Ferrer has co-authored more than 150 peer-reviewed scientific publications.