Curriculum Vitae

Personal information

Laura Windt

Work experience

December 2024 - present, Project Lead Organ-on-Chip, Top Sector Life Sciences & Health (Health~Holland), The Netherlands

As part of a strategic initiative commissioned by the Dutch Ministry of Economic Affairs and Climate Policy, I contribute to Health~Holland's efforts to accelerate innovation and implementation of organ-on-chip (OoC) technologies. In close collaboration with the Netherlands Enterprise Agency (RVO) and the Dutch Embassy in Switzerland, we are developing a jointly supported public-private strategic roadmap that forms the foundation for a potential multi-year public-private partnership (PPP) trajectory.

My role includes fostering synergies between the Dutch and Swiss ecosystems, identifying market and collaboration opportunities for Dutch companies and knowledge institutions (with a focus on Switzerland, but also other countries such as Germany, France, Sweden, US), and facilitating network activities that support (international) partnerships and overall implementation. To accelerate the adoption of OoC technologies, I connect developers with end users—such as pharmaceutical companies and CROs—leveraging my scientific background and professional network to bring the right partners together. In addition, we are currently preparing an OoC call to be published this summer. We aim to strengthen the Netherlands' geopolitical position by helping it remain a global frontrunner in the organ-on-chip domain.

September 2018 - April 2019, Model development laboratory research intern, Mimetas, Leiden, The Netherlands

Model optimization of bioengineered liver and lung on Organ-on-Chip plates.

Education and training

May 2019 - May 2024, PhD Candidate, Leiden University Medical Center, Lab: Prof. Christine Mummery, The Netherlands

Bioengineering of 3D micro Engineered Heart Tissues on-a-chip and mimicking fibrotic tissue remodelling after myocardial infarction. Consortium: Netherlands Organ on Chip Initiative (NOCI). Promotor: Prof. Dr. Christine Mummery, co-promotor: Dr. Berend van Meer.

Februari 2017 - April 2019, Master of Science in Medical Biotechnology, Wageningen University and Research, The Netherlands

Master thesis, Medical Biotechnology, Pharmacology and Nutrition: Research on the effect of Rebaudioside A, a Stevia compound, on gene expression and cell proliferation in small intestinal organoids.

September 2013 - Februari 2017, Bachelor of Science in Biotechnology Wageningen University and Research, The Netherlands

Minor Medical Biotechnology Technical University of Denmark, Lyngby, Denmark

Bachelor thesis, Biotechnology, Pharmacology and Nutrition: Development of mice derived intestinal organoid model for the determination of inflammation induced interleukin 33 secretion.

Additional information

Publications

Windt, L. M.*, Wiendels, M.*, Dostanić M., Bellin, M., Sarro, P. M., Mastrangeli, M., Mummery, C. L., & van Meer, B. J. (2023). Miniaturized engineered heart tissues from hiPSC-derived triple cell type co-cultures to study human cardiac function. Biochemical and Biophysical Research Communications, 681, 200–211.

Windt, L. M.*, Campostrini, G.*, van Meer, B. J., Bellin, M., & Mummery, C. L. (2021). Cardiac Tissues from Stem Cells: New Routes to Maturation and Cardiac Regeneration. Circulation Research, 775–801.

Dostanić, M., Windt, L. M., Wiendels, M., van Meer, B. J., Mummery, C. L., Sarro, P. M., & Mastrangeli, M. (2023). Highly Reproducible Tissue Positioning with Tapered Pillar Design in Engineered Heart Tissue Platforms. IEEE 36th International Conference on Micro Electro Mechanical Systems (MEMS), 374–377.

Dostanić, M., Windt, L. M., Stein, J. M., van Meer, B. J., Bellin, M., Orlova, V., Mastrangeli, M., Mummery, C. L., & Sarro, P. M. (2020). A Miniaturized EHT Platform for Accurate Measurements of Tissue Contractile Properties. Journal of Microelectromechanical Systems, 29(5), 881–887.

Rivera-Arbeláez J.M.*, Dostanić M.*, Windt L.M., Stein J.M., Cofiño-Fabres C., Boonen T., Wiendels M., van den Berg A., Segerink L.I., Mummery C.L., Sarro P.M., van Meer B.J., Ribeiro M.C., Mastrangeli M., Passier R. (2024). FORCETRACKER: A versatile tool for standardized assessment of tissue contractile properties in 3D Heart-on Chip platforms. Submitted to PLOS One.

Nahon D.*, Moerkens R.*, Aydogmus H.**, Lendemeijer B.**, Martinez-Silgado A.**, Stein J.M.**, Dostanić M., Frimat J.P., Gontan C., de Graaf M., Hu M., Kasi D., Koch L.S., Le K., Lim S., Middelkamp H., Mooiweer J.,Motreuil-

Ragot P., Niggl E., Ple guezuelos C., Puschhof J., Revyn N., Rivera-Arbeláez J.M., Slager J., Windt L.M., Zakharova M., van Meer B.J., Orlova V., de Vrij F., Withoff S., Mastrangeli M., van der Meer A.D., Mummery C.L. (2024). Taking microphysiological systems to the next level: Why quantification of physiological features is essential. Nature Biomedical Engineering.

Projects

May 2019 - May 2024: Netherlands Organ on Chip Initiative (NOCI), a Netherlands Science Foundation (NWO) Gravitation project (024.003.001) funded by the Ministry of Education, Culture and Science of the government of the Netherlands. The aim of this interdisciplinary endeavour is to pioneer innovative methodologies for creating sophisticated human organ systems within OoC devices, with a focus on modelling cardiovascular, brain, and gastrointestinal (patho)physiology. This initiative engages bio-medical engineers and biological researchers from six prominent universities in the Netherlands (LUMC, TU Delft, UT, UMC Utrecht Hubrecht, UMCG and Erasmus MC), fostering active collaboration to drive the development of novel applications tailored to diverse organ systems.

Memberships

Other Relevant Information